

## March 2010 Electrical Safety Occurrences

There were 13 electrical safety occurrences for March 2010:

- 2 occurrences resulted in an electrical shock to a worker
- 3 occurrences involved inadequate lockout/tagout (LOTO)
- 7 occurrences involved electrical workers and 6 occurrences involved non-electrical workers
- 8 occurrences involved subcontractors
- 3 occurrences involved inadvertent severing of an energized conductor by cutting or drilling into a conduit
- 4 occurrences resulted from inadequate planning
- 2 occurrences resulted from a vehicle making contact with an overhead line

As warmer weather approaches, outside electrical hazards become prevalent with increased work activities involving excavation, construction, and equipment movement. In March, there were two examples of moving vehicles contacting overhead lines. Spotters or other barriers are critical in preventing serious consequences associated with overhead power lines. The two electrical shocks reported in March were relatively minor, but we cannot let our guard down because any shock could result in serious injuries or fatalities. The number of LOTO events was down in March; however, the events reported resulted in removal of electrical equipment that was not protected by LOTO. It was only luck that prevented an exposure to electrical hazards. Executing LOTO perfectly every time is the standard to which we all must strive to achieve.

If you are still looking for material to share during Electrical Safety Month, consider visiting the web sites that support the electrical safety program. Here are some suggestions that will provide a wealth of information:

[http://efcog.org/wg/esh\\_es/Electrical\\_Safety\\_Training/elecsafetytng.htm](http://efcog.org/wg/esh_es/Electrical_Safety_Training/elecsafetytng.htm)

<http://www.lanl.gov/safety/electrical/>

<http://www.hss.energy.gov/CSA/Analysis/electrical.html>

<http://esfi.org/index.php>

In compiling the monthly totals, the search initially looked for occurrence discovery dates in this month (excluding Significance Category R reports), and for the following ORPS "HQ keywords":

01K – Lockout/Tagout Electrical, 01M - Inadequate Job Planning (Electrical),

08A – Electrical Shock, 08J – Near Miss (Electrical), 12C – Electrical Safety

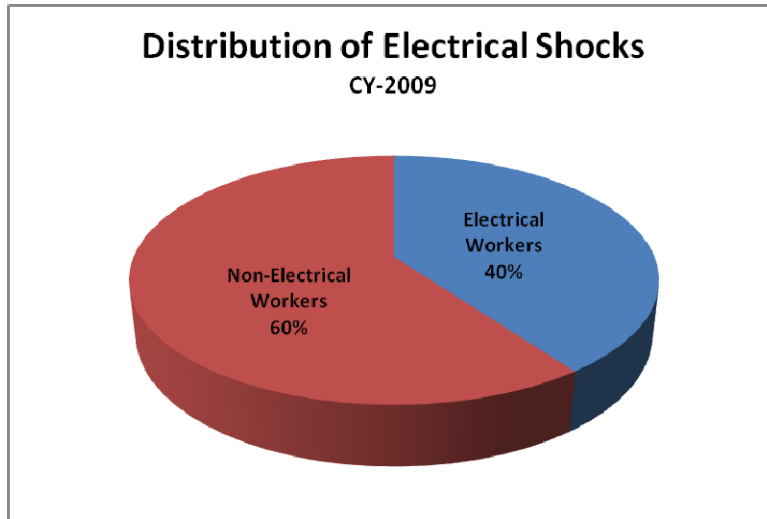
Using the key words above, sixteen events were identified. Three events were excluded from the report as not meeting the criteria to be included in the trending data. Please continue to report all events and evaluate the events using the Electrical Severity Measurement Tool. During the month of March, eight events had Electrical Severity scores and all were determined to be of Medium severity (31-330).

Below is the current summary of 2010 electrical safety occurrences:

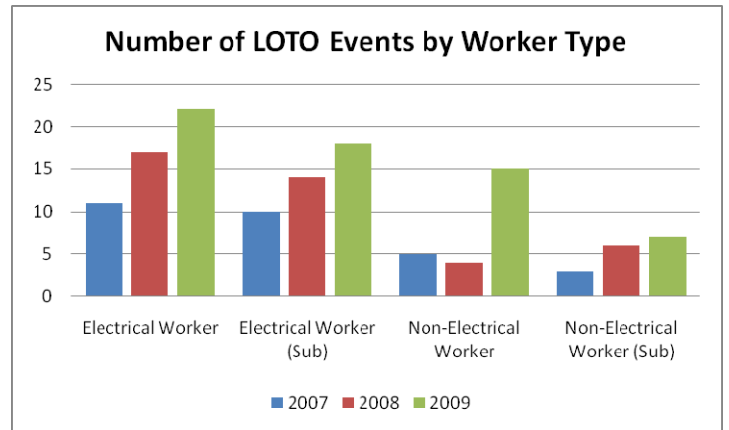
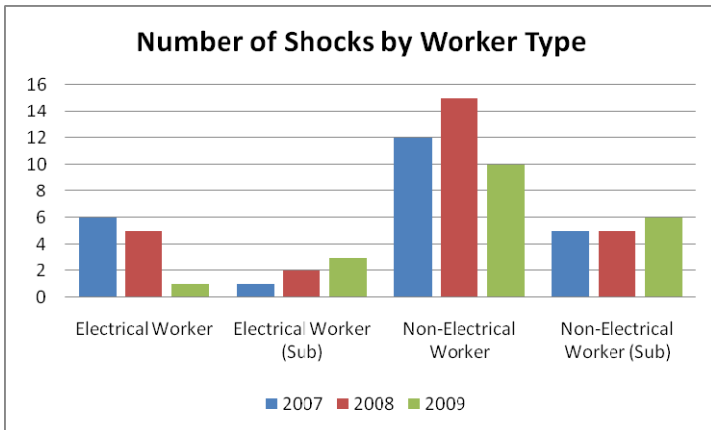
Period	Electrical Safety Occurrences	Shocks	Burns	Fatalities
March-10	13	2	0	0
February-10	13	4	0	0
January-10	8	0	0	0
2010 total	34 (avg. 11.3/month)	6	0	0
2009 total	128 (avg. 10.7/month)	25	3	0
2008 total	113 (avg. 9.4/month)	26	1	0
2007 total	140 (avg. 11.7/month)	25	2	0
2006 total	166 (avg. 13.8/month)	26	3	0
2005 total	165 (avg. 13.8/month)	39	5	0
2004 total	149 (avg. 12.4/month)	25	3	1

The first quarter of 2010 has seen an average rate of 11.3 events per month. This is an increase over the rate of electrical safety occurrences in 2009, which averaged 10.7 per month and only 9.3 per month in the first quarter of 2009. The rolling eighteen month chart of electrical safety events shows an average of 9.9 events per month.

There were two events involving contact with electrical energy and both events involved non-electrical workers. There have been six shocks this quarter, two more than the first quarter of 2009. As the following chart from 2009 data indicates, more non-electrical workers were received electrical shocks during the year. Many of these shocks resulted from contact with defective equipment.

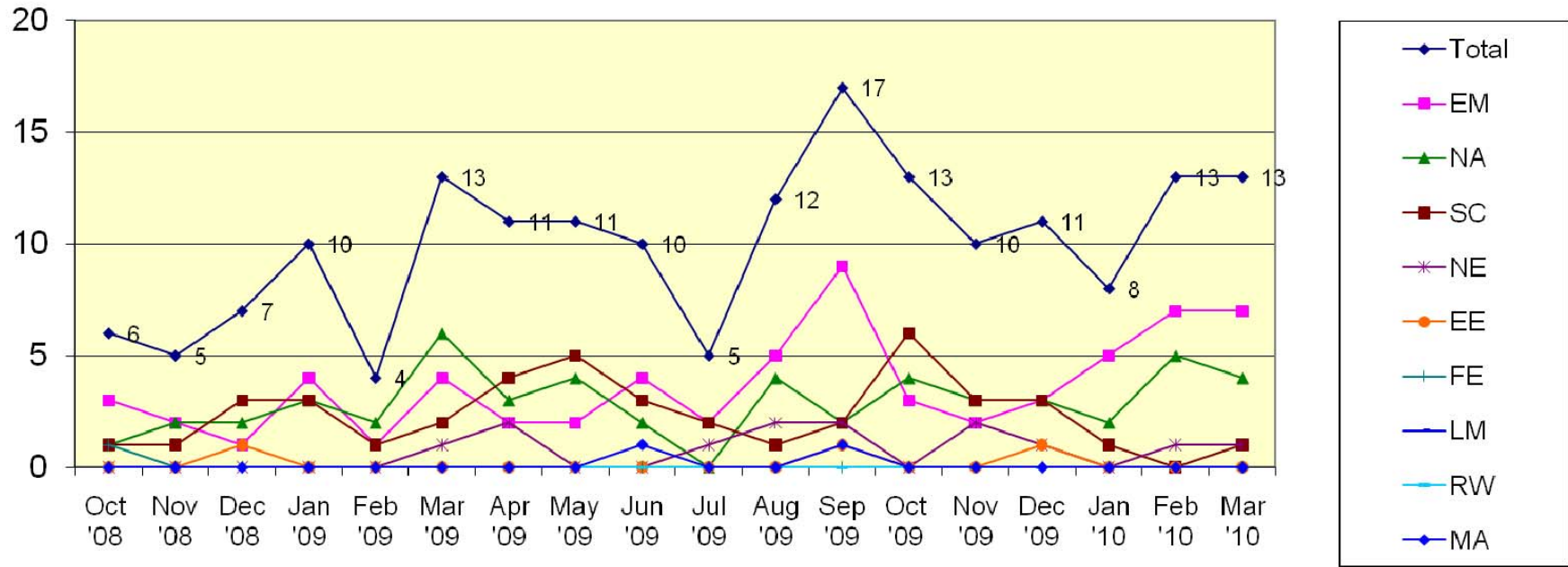


The following two charts look at electrical shocks and hazardous energy control (LOTO) events over a three-year period for different worker types. One of the major issues that we see from month to month is in the area of LOTO. Since 2007 we see a rise in LOTO events involving every type of worker.



## Electrical Occurrences by Month & Secretarial Office

(Rolling 18-Month Chart)



EE - Energy Efficiency and Renewable Energy, EM - Environmental Management, FE - Fossil Energy, LM - Legacy Management, MA - Management, NA - National Nuclear Security Administration, NE - Nuclear Energy, RW - Civilian Radioactive Waste Management, SC - Science

## Electrical Safety Occurrences – March 2010

No	Report Number	Event Summary	SHOCK	BURN	ARCF <sup>(1)</sup>	LOTO <sup>(2)</sup>	PLAN <sup>(3)</sup>	EXCAV <sup>(4)</sup>	CUT/D <sup>(5)</sup>	VEH <sup>(6)</sup>	SC <sup>(7)</sup>	RC <sup>(8)</sup>	ES <sup>(9)</sup>
1	EM-ID--CWI-BIC-2010-0003	Worker cuts conduit containing energized conductor.					X		X		3	2C(2)	110
2	EM-ORO--BJC-X10WSTEMRA-2010-0002	Workers violated LOTO procedure by releasing work before applying locks.				X					3	10(2)	0
3	EM-RL--MSC-S&W-2010-0001	Workers remove device without applying LOTO device.				X					3	2C(2)	0
4	EM-RL--WCH-REMACT-2010-0006	Mobile crane contacts overhead electrical line.								X	3	10(3)	0
5	EM-SR--SRNS-CPWM-2010-0003	Worker observes spark and loss of power when manipulating a metal object inside a glovebox.									3	10(2)	110
6	EM-SR--SRNS-SRNL-2010-0003	A ground fault occurred when a metal cover contacted the blade of a damaged plug.									4	10(2)	110
7	EM-SR--SRNS-SRNL-2010-0004	Worker cuts conduit containing energized conductor.					X		X		4	10(2)	110
8	NA--KCSO-AS-KCP-2010-0001	Worker creates a ground fault taking voltage measurements.									3	10(3)	110
9	NA--LASO-LANL-PHYSTECH-2010-0006	Forklift strikes de-energized overhead electrical line.					X			X	4	10(2)	0
10	NA--NVSO-NST-NTS-2010-0007	Worker receives electrical shock from energized switch cover.	X								4	10(2)	330
11	NA--SS-SNL-2000-2010-0002	Worker receives static shock from neutron tube.	X								2	2C(1)	33
12	NE-ID--BEA-ATR-2010-0004	Worker violates LOTO procedure by removing wrong device.				X					3	2C(2)	0
13	SC--BSO-LBL-OPERATIONS-2010-0002	Worker drills into conduit containing energized conductors.					X		X		3	2C(2)	110
	TOTAL		2	0	0	3	4	0	3	2			

### Key

(1) ARCF = significant arc flash, (2) LOTO = lockout/tagout, (3) PLAN = job planning, (4) EXCAV = excavation/penetration, (5) CUT/D = cutting or drilling, (6) VEH = vehicle event, (7) SC = ORPS significance category, (8) RC = ORPS reporting criteria, (9) ES = electrical severity

ES Scores: Extreme is >3301, High is 331-3300, Medium is 31-330, and Low is 1-30

## Electrical Safety Occurrences – March 2010

No	Report Number	Event Summary	EW <sup>(1)</sup>	N-EW <sup>(2)</sup>	SUB <sup>(3)</sup>	HFW <sup>(4)</sup>	WFH <sup>(5)</sup>	PPE <sup>(6)</sup>	70E <sup>(7)</sup>	VOLT <sup>(8)</sup>		C/I <sup>(9)</sup>	NEUT <sup>(10)</sup>	NM <sup>(11)</sup>
										H	L			
1	EM-ID--CWI-BIC-2010-0003	Worker cuts conduit containing energized conductor.	X		X	X					X			X
2	EM-ORO--BJC-X10WSTEMRA-2010-0002	Workers violated LOTO procedure by releasing work before applying locks.	X		X		X				X			
3	EM-RL--MSC-S&W-2010-0001	Workers remove device without applying LOTO device.	X				X				X			
4	EM-RL--WCH-REMACT-2010-0006	Mobile crane contacts overhead electrical line.		X	X	X					X			X
5	EM-SR--SRNS-CPWM-2010-0003	Worker observes spark and loss of power when manipulating a metal object inside a glovebox.		X	X	X					X			
6	EM-SR--SRNS-SRNL-2010-0003	A ground fault occurred when a metal cover contacted the blade of a damaged plug.	X			X					X			X
7	EM-SR--SRNS-SRNL-2010-0004	Worker cuts conduit containing energized conductor.	X			X					X			
8	NA--KCSO-AS-KCP-2010-0001	Worker creates a ground fault taking voltage measurements.	X		X	X					X			X
9	NA--LASO-LANL-PHYSTECH-2010-0006	Forklift strikes de-energized overhead electrical line.		X	X		X				X			
10	NA--NVSO-NST-NTS-2010-0007	Worker receives electrical shock from energized switch cover.		X		X					X			
11	NA--SS-SNL-2000-2010-0002	Worker receives static shock from neutron tube.		X		X					X	X		
12	NE-ID--BEA-ATR-2010-0004	Worker violates LOTO procedure by removing wrong device.	X		X		X				X			
13	SC--BSO-LBL-OPERATIONS-2010-0002	Worker drills into conduit containing energized conductors.		X	X	X					X			
	TOTAL		7	6	8	9	4	0	0	0	13	1	0	4

### Key

(1) EW = electrical worker, (2) N-EW = non-electrical worker, (3) SUB = subcontractor, (4) HFW = hazard found the worker, (5) WFH = worker found the hazard, (6) PPE = inadequate or no PPE used, (7) 70E = NFPA 70E issues, (8) VOLT = H (>600) L (≤600), (9) C/I = Capacitance/Inductance, (10) NEUT = neutral circuit, (11) NM = near miss

# ORPS Operating Experience Report

Production GUI - New ORPS

ORPS contains 54633 OR(s) with 57951 occurrences(s) as of 4/12/2010 7:32:10 AM

Query selected 13 OR(s) with 13 occurrences(s) as of 4/12/2010 11:50:52 AM

Download this report in Microsoft Word format. 

<b>1)Report Number:</b>	<a href="#">EM-ID--CWI-BIC-2010-0003</a> After 2003 Redesign		
<b>Secretarial Office:</b>	Environmental Management		
<b>Lab/Site/Org:</b>	Idaho National Laboratory		
<b>Facility Name:</b>	ICP Demolition and Decommissioning Activities		
<b>Subject/Title:</b>	INTEC D&D - CPP-601 Energized 110 Volt AC Line Cut without a Zero Energy Verification Being Performed --- ARRA		
<b>Date/Time Discovered:</b>	03/08/2010 14:00 (MTZ)		
<b>Date/Time Categorized:</b>	03/08/2010 15:25 (MTZ)		
<b>Report Type:</b>	Notification		
<b>Report Dates:</b>	Notification	03/10/2010	10:34 (ETZ)
	Initial Update		
	Latest Update		
	Final		
<b>Significance Category:</b>	3		
<b>Reporting Criteria:</b>	2C(2) - Failure to follow a prescribed hazardous energy control process (e.g., lockout/tagout) or a site condition that results in the unexpected discovery of an uncontrolled hazardous energy source (e.g., live electrical power circuit, steam line, pressurized gas). This criterion does not include discoveries made by zero-energy checks and other precautionary investigations made before work is authorized to begin.		
<b>Cause Codes:</b>			
<b>ISM:</b>	4) Perform Work Within Controls		
<b>Subcontractor Involved:</b>	No		
<b>Occurrence Description:</b>	As part of the preparation for removal of the exterior siding on the east side of building CPP-601, electricians were tasked with removing electrical conduit from the exterior of the building. A qualified D&D Electrician was cutting a 3/4-inch electrical conduit using a battery powered, double insulated sawz-all when he noted excessive smoke coming out of the conduit at the cut location. The electrician, suspecting that an electrical line had been cut, he stopped cutting and removed the sawz-all blade from the cut location. The electrician looked through the cut location and noted a blue wire running through the conduit.		
<b>Cause Description:</b>			

<b>Operating Conditions:</b>	Normal D&D activities							
<b>Activity Category:</b>	Facility Decontamination/Decommissioning							
<b>Immediate Action(s):</b>	Performed a step back, notified D&D management, placed the system into a safe configuration, notified DOE. Held a fact finding meeting.							
<b>FM Evaluation:</b>								
<b>DOE Facility Representative Input:</b>								
<b>DOE Program Manager Input:</b>								
<b>Further Evaluation is Required:</b>	No							
<b>Division or Project:</b>	CWI D&D							
<b>Plant Area:</b>	CPP-601							
<b>System/Building/Equipment:</b>	CPP-602							
<b>Facility Function:</b>	Environmental Restoration Operations							
<b>Corrective Action:</b>								
<b>Lessons(s) Learned:</b>								
<b>HQ Keywords:</b>	01M--Inadequate Conduct of Operations - Inadequate Job Planning (Electrical) 07D--Electrical Systems - Electrical Wiring 08H--OSHA Reportable/Industrial Hygiene - Safety Noncompliance 08J--OSHA Reportable/Industrial Hygiene - Near Miss (Electrical) 12C--EH Categories - Electrical Safety 13H--Management Concerns - American Recovery and Reinvestment Act (ARRA) 14E--Quality Assurance - Work Process Deficiency							
<b>HQ Summary:</b>	On March 8, 2010, a qualified D&D Electrician was cutting a 3/4-inch electrical conduit using a battery-powered, double-insulated SawzallR when he noted excessive smoke coming out of the conduit at the cut location. The conduit removal work was being done in preparation for the removal of exterior siding on the east side of Building CPP-601. The electrician, suspecting that an electrical line had been cut, stopped cutting and removed the SawzallR blade from the cut location. The electrician looked through the cut location and noted a blue wire running through the conduit. The SawzallR was placed into a safe configuration and appropriate notifications were made. A fact finding meeting was held.							
<b>Similar OR Report Number:</b>								
<b>Facility Manager:</b>	<table border="1"> <tr> <td>Name</td> <td>DIAZ, DAVID A.</td> </tr> <tr> <td>Phone</td> <td>(208) 533-3714</td> </tr> <tr> <td>Title</td> <td>SR. CONSULTING TECH SPEC.</td> </tr> </table>		Name	DIAZ, DAVID A.	Phone	(208) 533-3714	Title	SR. CONSULTING TECH SPEC.
Name	DIAZ, DAVID A.							
Phone	(208) 533-3714							
Title	SR. CONSULTING TECH SPEC.							
<b>Originator:</b>	<table border="1"> <tr> <td>Name</td> <td>DIAZ, DAVID A.</td> </tr> <tr> <td>Phone</td> <td>(208) 533-3714</td> </tr> </table>		Name	DIAZ, DAVID A.	Phone	(208) 533-3714		
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Phone	(208) 533-3714							

	Title	SR. CONSULTING TECH SPEC.		
<b>HQ OC Notification:</b>	Date	Time	Person Notified	Organization
	NA	NA	NA	NA
<b>Other Notifications:</b>	Date	Time	Person Notified	Organization
	03/08/2010	15:25 (MTZ)	Bradley J. Davis	DOEID
<b>Authorized Classifier(AC):</b>	Casteel, Michael S. Date: 03/10/2010			

<b>2)Report Number:</b>	<a href="#">EM-ORO--BJC-X10WSTEMRA-2010-0002</a> After 2003 Redesign		
<b>Secretarial Office:</b>	Environmental Management		
<b>Lab/Site/Org:</b>	Oak Ridge National Laboratory		
<b>Facility Name:</b>	Bethel Valley/BOPCP		
<b>Subject/Title:</b>	Management Concern - Lock Out/ Tag Out Procedure Violation		
<b>Date/Time Discovered:</b>	03/10/2010 10:20 (ETZ)		
<b>Date/Time Categorized:</b>	03/10/2010 15:30 (ETZ)		
<b>Report Type:</b>	Final		
<b>Report Dates:</b>	Notification	03/12/2010	14:08 (ETZ)
	Initial Update	03/30/2010	07:44 (ETZ)
	Latest Update	03/30/2010	07:44 (ETZ)
	Final	03/30/2010	07:44 (ETZ)
<b>Significance Category:</b>	3		
<b>Reporting Criteria:</b>	10(2) - An event, condition, or series of events that does not meet any of the other reporting criteria, but is determined by the Facility Manager or line management to be of safety significance or of concern to other facilities or activities in the DOE complex. One of the four significance categories should be assigned to the occurrence, based on an evaluation of the potential risks and the corrective actions taken. (1 of 4 criteria - This is a SC 3 occurrence)		
<b>Cause Codes:</b>	A3B3C01 - Human Performance Less Than Adequate (LTA); Knowledge Based Error; Attention was given to wrong issues -->couplet - A4B3C07 - Management Problem; Work Organization & Planning LTA; Job scoping did not identify potential task interruptions and/or environmental stress		
<b>ISM:</b>	4) Perform Work Within Controls		
<b>Subcontractor Involved:</b>	Yes Energy Solutions (ES); Pro2Serve (P2S)		
<b>Occurrence Description:</b>	On 3/10/10 at approximately 1020 a.m., workers collecting arc flash data in facility 3010 at Oak Ridge National Laboratory (ORNL) recognized they had violated the Lock Out/Tag Out (LO/TO) Procedure and suspended work.		



	<p>Over the last few weeks the ORNL site contractor had been involved in changing the power distribution route to Building 3010. As a result there were two disconnects outside of 3010 that had not yet been tied in to the building. These disconnects were locked out by the ORNL site contractor. The work inside 3010 did not involve these disconnects but did require the site contractor power operations personnel to remove fuses at the substation supplying power to 3010. This was accomplished without incident and the power distribution permit was given to the work team to lock in a lock box. The work plan called for a verification of zero energy at a panel, DP-1 where electrical power comes into 3010. Two electricians, wearing NFPA 70E Class 4 electrical personal protective equipment (PPE), proceeded to remove the DP-1 panel cover and verify zero energy. The Class 4 PPE far exceeded the Class 1 PPE required by the arc flash calculation for DP-1. At about the same time the electrician supervisor decided it would be best to place his locks over the ORNL site contractor's locks on the two disconnects outside the building. However, he did not have sufficient tags with him to accomplish that and left the building to obtain them. Meanwhile, the electricians completed the zero energy check and announced the panel was "good to go." A Radiological Control Technician (RCT) handed in maslin for the electricians to smear the inside of panel DP-1. There was no contamination. Then the task lead, directed the electrical engineers to obtain the needed data. For this part of the operation, the electricians read data from inside the panel, or breaker and wire sizes back to the engineers. The engineers do not enter the panel. This only took a few minutes. At that time the Facility Representative noticed the LO/TO box with one lock attached but not locked and questioned the completion of the LO/TO procedure. About this same time the electrical supervisor returned with the tags and confirmed that the LO/TO procedure had been violated.</p>
<p><b>Cause Description:</b></p>	<p>The task lead, in error, signed off a hold point for completion of LO/TO after zero energy was confirmed at the DP-1 panel, but before the locks were placed on the lock box. Then the task lead directed the next steps in the work package to be accomplished. Adding to the confusion, at the time the zero energy was being performed, the electricians supervisor decided to place locks over the ORNL site contractor's locks on the two disconnects outside the building and left the area to retrieve a sufficient number of tags. While the intent of this action was one of safety, this was a change in the scope discussed for the work to be performed and the electricians' supervisor did not notify the task lead of the need to leave the area.</p>
<p><b>Operating Conditions:</b></p>	<p>Shutdown, undergoing surveillance and maintenance</p>
<p><b>Activity Category:</b></p>	<p>Inspection/Monitoring</p>
<p><b>Immediate Action(s):</b></p>	<ol style="list-style-type: none"> <li>1) The facility was placed in a safe condition. The LO/TO was properly completed. The panel cover to DP-1 was re-attached.</li> <li>2) Work was suspended.</li> </ol>

	<p>3) A debrief was held at the job site and documented in the work package.</p> <p>4) The project manager was contracted and further work was suspended.</p> <p>5) A critique and fact finding meeting was held.</p>
<b>FM Evaluation:</b>	<p>Two significant tenets other than the LO/TO procedure were violated in this incident:</p> <p>1) Recognition of changed conditions and the need to stop and evaluate before proceeding and</p> <p>2) Recognition of the need to confirm completion of a Hold Point prior to proceeding.</p> <p>The facility was left in a stable condition. Permission was given to release the LO/TO and close breakers in 3010 and a nearby facility so that the ORNL prime contractor can restore electricity to other facilities.</p>
<b>DOE Facility Representative Input:</b>	
<b>DOE Program Manager Input:</b>	
<b>Further Evaluation is Required:</b>	No
<b>Division or Project:</b>	Surveillance and Maintenance
<b>Plant Area:</b>	Bethel Valley
<b>System/Building/Equipment:</b>	3010
<b>Facility Function:</b>	Environmental Restoration Operations
<b>Corrective Action 01:</b>	<b>Target Completion Date:</b> 03/15/2010 <b>Tracking ID:</b> I0069498
	Re-train the task lead on his duties as a task lead using Training Module 29326, current revision, and as described in BJC-FS-1001, Revision 14, prior to assuming other task lead roles.
<b>Corrective Action 02:</b>	<b>Target Completion Date:</b> 03/15/2010 <b>Tracking ID:</b> I0069498
	Train the following project personnel on the LO/TO procedure: Facility Managers, Task Leads, Electricians, and Work Control. Other potential Affected Employees or Authorized Employees should also be trained as deemed appropriate by the Manager of Projects.
<b>Corrective Action 03:</b>	<b>Target Completion Date:</b> 03/17/2010 <b>Tracking ID:</b> I0069498
	Revise the Surveillance and Maintenance arc flash work package to require the Supervisor in Charge signature for completion of the LO/TO prior to the task lead's signature.
<b>Corrective Action 04:</b>	<b>Target Completion Date:</b> 03/17/2010 <b>Tracking ID:</b> I0069498
	Train personnel associated with the arc flash work package on the revision to require the Supervisor in Charge signature for completion of the LO/TO prior to the task lead's signature.
<b>Lessons(s) Learned:</b>	Even senior workers and supervisors can make mistakes. In this case there

	were as many as four barriers to protect the electricians from hazardous energy. However, that does not diminish the fact the work control hold points and the LO/TO procedure are in place for the safety of workers and must be understood and followed every time.						
<b>HQ Keywords:</b>	01A--Inadequate Conduct of Operations - Inadequate Conduct of Operations (miscellaneous) 01F--Inadequate Conduct of Operations - Training Deficiency 01K--Inadequate Conduct of Operations - Lockout/Tagout Noncompliance (Electrical) 01P--Inadequate Conduct of Operations - Inadequate Oral Communication 01R--Inadequate Conduct of Operations - Management issues 11G--Other - Subcontractor 12I--EH Categories - Lockout/Tagout (Electrical or Mechanical) 14B--Quality Assurance - Training and Qualification Deficiency 14D--Quality Assurance - Documents and Records Deficiency 14E--Quality Assurance - Work Process Deficiency 14H--Quality Assurance - Inspection and Acceptance Testing Deficiency						
<b>HQ Summary:</b>	On March 10, 2010, while collecting arc flash data in Building 3010, electricians violated the Lock Out/Tag Out (LO/TO) Procedure. The electricians were wearing NFPA 70E Class 4 electrical personal protective equipment and had removed the panel cover from panel DP-1. After verifying zero energy, they began to provide arc flash data from inside the panel to electrical engineers. At that time, a Facility Representative noticed the LO/TO box with one lock attached but not locked and questioned the completion of the LO/TO procedure. The facility was placed in a safe condition and the LO/TO was properly completed. The panel cover to DP-1 was re-attached and the work was suspended. A critique and fact finding was held.						
<b>Similar OR Report Number:</b>	1. EM-CAFO--WTS-WIPP-2010-0001 2. EM-ID--BBWI-AMWTF-2008-0012 3. EM-RL--CPRC-GPP-2009-0013 4. EM-RL--CPRC-SNF-2009-0004 5. EM-RL--PHMC-FSS-2008-0002 6. NA--LASO-LANL-ADOADMIN-2009-0003 7. NE-ID--BEA-MFC-2009-0001						
<b>Facility Manager:</b>	<table border="1"> <tr> <td>Name</td> <td>Sylvia Wright-Reeder</td> </tr> <tr> <td>Phone</td> <td>(865) 241-5052</td> </tr> <tr> <td>Title</td> <td>Facility Manager</td> </tr> </table>	Name	Sylvia Wright-Reeder	Phone	(865) 241-5052	Title	Facility Manager
Name	Sylvia Wright-Reeder						
Phone	(865) 241-5052						
Title	Facility Manager						
<b>Originator:</b>	<table border="1"> <tr> <td>Name</td> <td>SMITH, MILDRED L</td> </tr> <tr> <td>Phone</td> <td>(865) 241-1703</td> </tr> <tr> <td>Title</td> <td>QUALITY ENGINEER</td> </tr> </table>	Name	SMITH, MILDRED L	Phone	(865) 241-1703	Title	QUALITY ENGINEER
Name	SMITH, MILDRED L						
Phone	(865) 241-1703						
Title	QUALITY ENGINEER						
<b>HQ OC Notification:</b>	<table border="1"> <tr> <td>Date</td> <td>Time</td> <td>Person Notified</td> <td>Organization</td> </tr> </table>	Date	Time	Person Notified	Organization		
Date	Time	Person Notified	Organization				

	NA	NA	NA	NA
<b>Other Notifications:</b>	Date	Time	Person Notified	Organization
	03/10/2010	10:20 (ETZ)	Kevin White	BJC-AHJ
	03/10/2010	10:20 (ETZ)	Bruce Howard	BJC-FM
	03/10/2010	10:20 (ETZ)	Charlie Wright	DOE-FR
	03/10/2010	10:58 (ETZ)	Sylvia Wright-Reeder	BJC-MOP
	03/10/2010	11:00 (ETZ)	Steve Smith	BJC-OPS
	03/10/2010	11:00 (ETZ)	Ed Laner	BJC-AHJ
	03/10/2010	11:05 (ETZ)	Ron Hink	BJC-MOP
	03/10/2010	11:05 (ETZ)	Greg Bell	BJC-PAAA
	03/10/2010	11:10 (ETZ)	Jacque Noble-Dials	DOE-PM
	03/12/2010	11:52 (ETZ)	John Roddy	BJC-PSS
<b>Authorized Classifier(AC):</b>	Dennis Smith     Date: 03/29/2010			
<b>3)Report Number:</b>	<a href="#">EM-RL--MSC-S&amp;W-2010-0001</a> After 2003 Redesign			
<b>Secretarial Office:</b>	Environmental Management			
<b>Lab/Site/Org:</b>	Hanford Site			
<b>Facility Name:</b>	SEWER SYSTEMS & WATER UTILITIES			
<b>Subject/Title:</b>	Wrong Equipment Removed During Work Performance			
<b>Date/Time Discovered:</b>	03/31/2010 16:00 (PTZ)			
<b>Date/Time Categorized:</b>	04/01/2010 12:30 (PTZ)			
<b>Report Type:</b>	Update			
<b>Report Dates:</b>	Notification	04/01/2010	19:00 (ETZ)	
	Initial Update	04/07/2010	10:49 (ETZ)	
	Latest Update	04/07/2010	10:49 (ETZ)	
	Final			
<b>Significance Category:</b>	3			
<b>Reporting Criteria:</b>	2C(2) - Failure to follow a prescribed hazardous energy control process (e.g., lockout/tagout) or a site condition that results in the unexpected discovery of an uncontrolled hazardous energy source (e.g., live electrical power circuit, steam line, pressurized gas). This criterion does not include discoveries made by zero-energy checks and other precautionary investigations made before work is authorized to begin.			
<b>Cause Codes:</b>				
<b>ISM:</b>				
<b>Subcontractor Involved:</b>	No			
<b>Occurrence Description:</b>	The #4 Flocculator drive unit at the 283E Water Plant was identified to be			

	<p>removed for overhaul. On 03/31/2010, following the completion of equipment removal, it was discovered that the #1 Flocculator drive had been removed instead. The #4 Flocculator breaker had been correctly identified and locked out to support the work.</p> <p>The breaker for the #1 Flocculator was in the open/off position with zero energy and safe condition checks performed at the work site; however it was not locked out. There was no indication of existing voltage and the wires were disconnected from the motor and safed off prior to equipment removal. There was no electrical hazard to the worker during the performance of work. There were no injuries associated with this event.</p> <p>Update: 04/07/2010</p> <p>Based on conversations with the DOE FR, Water Utilities is re-categorizing the Occurrence Report as; Reporting Criteria: Group 2 C (Hazardous Energy Control) Significance Category: SC3</p>
<b>Cause Description:</b>	
<b>Operating Conditions:</b>	The facility was under normal operating conditions at the time of the event.
<b>Activity Category:</b>	Normal Operations (other than Activities specifically listed in this Category)
<b>Immediate Action(s):</b>	Verified #1, 2, 3 & 4 Flocculator drive unit circuit breakers were in the off position and no hazard existed to operations or maintenance personnel.
<b>FM Evaluation:</b>	.
<b>DOE Facility Representative Input:</b>	
<b>DOE Program Manager Input:</b>	
<b>Further Evaluation is Required:</b>	Yes. Before Further Operation? No By Whom: JL Day By When:
<b>Division or Project:</b>	Site Infrastructure & Utilities
<b>Plant Area:</b>	200 East
<b>System/Building/Equipment:</b>	283E Water Plant/#4 Flocculator Drive Unit
<b>Facility Function:</b>	Balance of Plant - Infrastructure (Other Functions not specifically listed in this Category)
<b>Corrective Action:</b>	
<b>Lessons(s) Learned:</b>	
<b>HQ Keywords:</b>	01K--Inadequate Conduct of Operations - Lockout/Tagout Noncompliance (Electrical) 01O--Inadequate Conduct of Operations - Inadequate Maintenance

	12B--EH Categories - Conduct of Operations 14E--Quality Assurance - Work Process Deficiency																			
<b>HQ Summary:</b>	On March 31, 2010, the #1 Flocculator drive unit at the 283E Water Plant was incorrectly removed for overhaul instead of the #4 Flocculator, which had been identified for removal. The breaker for the #1 Flocculator was in the open/off position with zero energy and safe condition checks performed at the work site; however it was not locked out. There was no indication of existing voltage and the wires were disconnected from the motor and placed in a safe condition before removing the drive unit. There was no electrical hazard to the worker during the performance of work. The #1, 2, 3 & 4 Flocculator drive unit circuit breakers were verified to be in the off position and no hazard existed to operations or maintenance personnel.																			
<b>Similar OR Report Number:</b>																				
<b>Facility Manager:</b>	<table border="1"> <tr> <td>Name</td> <td colspan="3">JL Day</td> </tr> <tr> <td>Phone</td> <td colspan="3">(509) 373-2366</td> </tr> <tr> <td>Title</td> <td colspan="3">Manager, Water &amp; Sewer Utilities</td> </tr> </table>				Name	JL Day			Phone	(509) 373-2366			Title	Manager, Water & Sewer Utilities						
Name	JL Day																			
Phone	(509) 373-2366																			
Title	Manager, Water & Sewer Utilities																			
<b>Originator:</b>	<table border="1"> <tr> <td>Name</td> <td colspan="3">BOYCE, MICHAEL L</td> </tr> <tr> <td>Phone</td> <td colspan="3">(509) 376-3030</td> </tr> <tr> <td>Title</td> <td colspan="3">OCCURRENCE REPORTING SPEC.</td> </tr> </table>				Name	BOYCE, MICHAEL L			Phone	(509) 376-3030			Title	OCCURRENCE REPORTING SPEC.						
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Phone	(509) 376-3030																			
Title	OCCURRENCE REPORTING SPEC.																			
<b>HQ OC Notification:</b>	<table border="1"> <thead> <tr> <th>Date</th> <th>Time</th> <th>Person Notified</th> <th>Organization</th> </tr> </thead> <tbody> <tr> <td>NA</td> <td>NA</td> <td>NA</td> <td>NA</td> </tr> </tbody> </table>				Date	Time	Person Notified	Organization	NA	NA	NA	NA								
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NA	NA	NA	NA																	
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Date	Time	Person Notified	Organization																	
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03/31/2010	16:15 (PTZ)	L Earley	DOE-RL																	
03/31/2010	16:20 (PTZ)	R Gohd	DOE-RL																	
<b>Authorized Classifier(AC):</b>																				
<b>4)Report Number:</b>	<a href="#">EM-RL--WCH-REMACT-2010-0006</a> After 2003 Redesign																			
<b>Secretarial Office:</b>	Environmental Management																			
<b>Lab/Site/Org:</b>	Hanford Site																			
<b>Facility Name:</b>	Remedial Action Projects																			
<b>Subject/Title:</b>	Excavator Boom Contacts an Overhead Power Line																			
<b>Date/Time Discovered:</b>	03/26/2010 17:32 (PTZ)																			
<b>Date/Time Categorized:</b>	03/26/2010 17:32 (PTZ)																			
<b>Report Type:</b>	Notification																			
<b>Report Dates:</b>	<table border="1"> <tr> <td>Notification</td> <td>03/30/2010</td> <td>19:54 (ETZ)</td> </tr> <tr> <td>Initial Update</td> <td></td> <td></td> </tr> </table>				Notification	03/30/2010	19:54 (ETZ)	Initial Update												
Notification	03/30/2010	19:54 (ETZ)																		
Initial Update																				

	Latest Update		
	Final		
<b>Significance Category:</b>	3		
<b>Reporting Criteria:</b>	10(3) - A near miss, where no barrier or only one barrier prevented an event from having a reportable consequence. One of the four significance categories should be assigned to the near miss, based on an evaluation of the potential risks and the corrective actions taken. (1 of 4 criteria - This is a SC 3 occurrence)		
<b>Cause Codes:</b>			
<b>ISM:</b>			
<b>Subcontractor Involved:</b>	Yes Safety Ecology Corporation (SEC)		
<b>Occurrence Description:</b>	<p>An excavator was being driven from one work location to another by traversing a preexisting abandoned asphalt roadway within the work site. The route of travel went underneath a set of overhead power lines.</p> <p>The excavator operator stopped, as planned, before crossing under the lines to wait for a spotter to ensure proper excavator clearance. While waiting for the spotter, the operator maneuvered the excavator boom and bucket by lowering it to a "knuckled under" position.</p> <p>Due to the proximity of the excavator to the power lines, the maneuver caused the excavator boom to make contact with one of the overhead lines. After contact was made, the excavator was backed away from the line under it's own power to break contact with the overhead conductor. There was no electrical shock and no equipment damage to the excavator or the power line.</p>		
<b>Cause Description:</b>			
<b>Operating Conditions:</b>	N /A		
<b>Activity Category:</b>	Facility Decontamination/Decommissioning		
<b>Immediate Action(s):</b>	<p>The excavator was backed away to break contact with the wire.</p> <p>The condition of the equipment operator was checked by a Project Safety Representative.</p>		
<b>FM Evaluation:</b>	As of 3/30/2010, the event was briefed to the project and a Standing Order was implemented. Further evaluation is in progress, this includes an investigation and a Root Cause Analysis.		
<b>DOE Facility Representative Input:</b>			
<b>DOE Program Manager Input:</b>			
<b>Further Evaluation is</b>	Yes.		

<b>Required:</b>	Before Further Operation? No By Whom: Project Management By When:															
<b>Division or Project:</b>	Field Remedation															
<b>Plant Area:</b>	100D															
<b>System/Building/Equipment:</b>	Excavator boom, overhead power line															
<b>Facility Function:</b>	Environmental Restoration Operations															
<b>Corrective Action:</b>																
<b>Lessons(s) Learned:</b>																
<b>HQ Keywords:</b>	08H--OSHA Reportable/Industrial Hygiene - Safety Noncompliance 08J--OSHA Reportable/Industrial Hygiene - Near Miss (Electrical) 10C--Transportation - Industrial Equipment Movement Incident 11G--Other - Subcontractor 12K--EH Categories - Near Miss (Could have been a serious injury or fatality) 14E--Quality Assurance - Work Process Deficiency 14G--Quality Assurance - Procurement Deficiency															
<b>HQ Summary:</b>	On March 26, 2010, an excavator, driven by a subcontractor operator, contacted an overhead power line. The excavator was being driven from one work location to another on an abandoned asphalt roadway, which went underneath a set of overhead power lines. The excavator operator stopped, as planned, before crossing under the lines to wait for a spotter to ensure proper excavator clearance. While waiting for the spotter, the operator maneuvered the excavator boom and bucket by lowering it to a "knuckled under" position. Due to the proximity of the excavator to the power lines, the maneuver caused the excavator boom to hit one of the overhead lines. After contact was made, the operator backed the excavator away from the line to break contact. There was no electrical shock and no equipment damage to the excavator or the power line. The excavator operator's condition was checked by a Project Safety Representative.															
<b>Similar OR Report Number:</b>																
<b>Facility Manager:</b>	<table border="1"> <tr> <td>Name</td> <td colspan="3">FOSTER, TOM</td> </tr> <tr> <td>Phone</td> <td colspan="3">(803) 645-3521</td> </tr> <tr> <td>Title</td> <td colspan="3">DIRECTOR, FIELD REMEDIATION</td> </tr> </table>				Name	FOSTER, TOM			Phone	(803) 645-3521			Title	DIRECTOR, FIELD REMEDIATION		
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Title	DIRECTOR, FIELD REMEDIATION															
<b>Originator:</b>	<table border="1"> <tr> <td>Name</td> <td colspan="3">TELLER, DONALD S</td> </tr> <tr> <td>Phone</td> <td colspan="3">(509) 372-9722</td> </tr> <tr> <td>Title</td> <td colspan="3">OCCURRENCE INVESTIGATOR</td> </tr> </table>				Name	TELLER, DONALD S			Phone	(509) 372-9722			Title	OCCURRENCE INVESTIGATOR		
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Phone	(509) 372-9722															
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	03/26/2010	17:32 (PTZ)	Joe Waring	DOE FR
	03/26/2010	18:06 (PTZ)	Ron Smithwick	DOE ONC
<b>Authorized Classifier(AC):</b>				
<b>5)Report Number:</b>	<a href="#">EM-SR--SRNS-CPWM-2010-0003</a> After 2003 Redesign			
<b>Secretarial Office:</b>	Environmental Management			
<b>Lab/Site/Org:</b>	Savannah River Site			
<b>Facility Name:</b>	Closure Projects and Works Management			
<b>Subject/Title:</b>	Loss of Power in DVS Unit			
<b>Date/Time Discovered:</b>	03/29/2010 16:42 (ETZ)			
<b>Date/Time Categorized:</b>	03/29/2010 17:20 (ETZ)			
<b>Report Type:</b>	Notification			
<b>Report Dates:</b>	Notification	03/30/2010	15:54 (ETZ)	
	Initial Update			
	Latest Update			
	Final			
<b>Significance Category:</b>	3			
<b>Reporting Criteria:</b>	10(2) - An event, condition, or series of events that does not meet any of the other reporting criteria, but is determined by the Facility Manager or line management to be of safety significance or of concern to other facilities or activities in the DOE complex. One of the four significance categories should be assigned to the occurrence, based on an evaluation of the potential risks and the corrective actions taken. (1 of 4 criteria - This is a SC 3 occurrence)			
<b>Cause Codes:</b>				
<b>ISM:</b>				
<b>Subcontractor Involved:</b>	Yes NFT			
<b>Occurrence Description:</b>	An electrical safety concern was identified when a spark, followed by loss of power, occurred in the DVS glovebox while the operator was inserting a vent into the vent holder during the operation of the Drum Venting System at the SWMF. Venting operations were immediately secured pending inspection and repairs. No shock or injury occurred.			
<b>Cause Description:</b>				
<b>Operating Conditions:</b>	Normal Operations			
<b>Activity Category:</b>	Normal Operations (other than Activities specifically listed in this Category)			
<b>Immediate Action(s):</b>	Venting operations were secured and the area barricaded.			
<b>FM Evaluation:</b>	Facility has been placed in a safe condition.			
<b>DOE Facility Representative</b>				

<b>Input:</b>																					
<b>DOE Program Manager Input:</b>																					
<b>Further Evaluation is Required:</b>	Yes. Before Further Operation? Yes By Whom: Robert Minnick By When: 03/31/2010																				
<b>Division or Project:</b>	Solid Waste																				
<b>Plant Area:</b>	E-Area																				
<b>System/Building/Equipment:</b>	660-E DVS Unit																				
<b>Facility Function:</b>	Nuclear Waste Operations/Disposal																				
<b>Corrective Action:</b>																					
<b>Lessons(s) Learned:</b>																					
<b>HQ Keywords:</b>	05C--Mechanical/Structural - Ventilation System/Fan 05G--Mechanical/Structural - Glovebox Failure 07C--Electrical Systems - Power Outage 12C--EH Categories - Electrical Safety 14L--Quality Assurance - No QA Deficiency																				
<b>HQ Summary:</b>	On March 29, 2010, a spark, followed by a loss of power, occurred in the Drum Venting System (DVS) glovebox while an operator was inserting a vent into a vent holder during the operation of the DVS at the Solid Waste Management Facility. Venting operations were immediately secured pending inspection and repairs. No shock or injury resulted. The area was barricaded.																				
<b>Similar OR Report Number:</b>																					
<b>Facility Manager:</b>	<table border="1"> <tr> <td>Name</td> <td>Johns-Hughes, Kathy</td> </tr> <tr> <td>Phone</td> <td>(803) 208-1130</td> </tr> <tr> <td>Title</td> <td>Facility Manager</td> </tr> </table>	Name	Johns-Hughes, Kathy	Phone	(803) 208-1130	Title	Facility Manager														
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Phone	(803) 208-1130																				
Title	Facility Manager																				
<b>Originator:</b>	<table border="1"> <tr> <td>Name</td> <td>Still, Debbie L</td> </tr> <tr> <td>Phone</td> <td>(803) 208-2886</td> </tr> <tr> <td>Title</td> <td>SOLID WASTE MANAGEMENT ADMIN. &amp; ORGA</td> </tr> </table>	Name	Still, Debbie L	Phone	(803) 208-2886	Title	SOLID WASTE MANAGEMENT ADMIN. & ORGA														
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Date	Time	Person Notified	Organization																		
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03/29/2010	17:45 (ETZ)	Tom Cochran, FR	DOE,SR																		
03/29/2010	17:47 (ETZ)	Minnie Kinard	SRSOC																		
<b>Authorized Classifier(AC):</b>	Steven J. Mentrup      Date: 03/30/2010																				

<b>6)Report Number:</b>	<a href="#">EM-SR--SRNS-SRNL-2010-0003</a> After 2003 Redesign		
<b>Secretarial Office:</b>	Environmental Management		
<b>Lab/Site/Org:</b>	Savannah River Site		
<b>Facility Name:</b>	Savannah River National Laboratory		
<b>Subject/Title:</b>	Inadvertant Contact with Energized Conductor		
<b>Date/Time Discovered:</b>	03/18/2010 17:15 (ETZ)		
<b>Date/Time Categorized:</b>	03/18/2010 17:30 (ETZ)		
<b>Report Type:</b>	Notification/Final		
<b>Report Dates:</b>	Notification	03/22/2010	11:56 (ETZ)
	Initial Update	03/22/2010	11:56 (ETZ)
	Latest Update	03/22/2010	11:56 (ETZ)
	Final	03/22/2010	11:56 (ETZ)
<b>Significance Category:</b>	4		
<b>Reporting Criteria:</b>	10(2) - An event, condition, or series of events that does not meet any of the other reporting criteria, but is determined by the Facility Manager or line management to be of safety significance or of concern to other facilities or activities in the DOE complex. One of the four significance categories should be assigned to the occurrence, based on an evaluation of the potential risks and the corrective actions taken. (1 of 4 criteria - This is a SC 4 occurrence)		
<b>Cause Codes:</b>	A3B1C03 - Human Performance Less Than Adequate (LTA); Skill Based Errors; Incorrect performance due to mental lapse -->couplet - NA		
<b>ISM:</b>	4) Perform Work Within Controls		
<b>Subcontractor Involved:</b>	No		
<b>Occurrence Description:</b>	During the replacement of the metal cover of an electrical receptacle box located in the Rad-Hood in Lab B-138, a mechanic made inadvertent contact with a broken plug blade, which apparently remained in the energized 110 volt receptacle after a piece of equipment was disconnected. A short circuit occurred between the receptacle cover and protruding plug blade. No electric shock or injury resulted. The mechanic was wearing rubber gloves for radiological protection. The radiological gloves are not credited for electrical protection. The EFCOG electrical severity score of 110 was assigned to the event (medium electrical hazard - Sig. Cat. 4).		
<b>Cause Description:</b>	The mechanic performing the work noticed the broken plug blade, but did not perceive the additional hazard as warranting a stoppage in work. Work proceeded inconsistent with the approved work package resulting in incident.		
<b>Operating Conditions:</b>	Normal Operations		
<b>Activity Category:</b>	Maintenance		

<b>Immediate Action(s):</b>	When the short to ground occurred, work was immediately stopped. Personnel working in Lab B-138 safely exited. The mechanic notified the SOM and FLM of the event. The rad technician and mechanic then maintained control of the area until operations personnel arrived at the scene. Operations responders discovered the circuit breaker feeding the receptacle "tripped". The SOM directed operations personnel to install Danger Unsafe Condition Tags on the affected circuit and hood to provide initial control of the hazard. A subsequent barricade was established at hood to prevent access. As a precaution the SOM requested the fire department to respond and check for evidence of hot spots in the wall area around the receptacle. No issues were detected during the inspection.
<b>FM Evaluation:</b>	The event had no impact on facility operations.
<b>DOE Facility Representative Input:</b>	
<b>DOE Program Manager Input:</b>	
<b>Further Evaluation is Required:</b>	No
<b>Division or Project:</b>	SRNL
<b>Plant Area:</b>	A- Area
<b>System/Building/Equipment:</b>	773-A
<b>Facility Function:</b>	Laboratory - Research & Development
<b>Corrective Action:</b>	
<b>Lessons(s) Learned:</b>	
<b>HQ Keywords:</b>	01A--Inadequate Conduct of Operations - Inadequate Conduct of Operations (miscellaneous) 01Q--Inadequate Conduct of Operations - Personnel error 07D--Electrical Systems - Electrical Wiring 08J--OSHA Reportable/Industrial Hygiene - Near Miss (Electrical) 12C--EH Categories - Electrical Safety 14E--Quality Assurance - Work Process Deficiency
<b>HQ Summary:</b>	On March 18, 2010, a mechanic made inadvertent contact with a broken 110V plug blade during the replacement of the metal cover of an electrical receptacle box located in the Rad-Hood in Lab B-138. The plug apparently remained in the energized receptacle after a piece of equipment was disconnected. A short circuit occurred between the receptacle cover and protruding plug blade. The mechanic was wearing rubber gloves for radiological protection, which are not credited for electrical protection. No electric shock or injury resulted. Work was immediately stopped and personnel working in Lab B-138 exited safely. The mechanic made appropriate notifications of the event. Management directed operations personnel to install "Danger Unsafe Condition Tags" on the affected circuit and hood and, as a precaution, requested the fire department to respond and check for evidence of hot spots in the wall area around the receptacle. No issues were detected during the inspection.

<b>Similar OR Report Number:</b>				
<b>Facility Manager:</b>	Name	TADLOCK, WILLIAM R		
	Phone	(803) 725-9713		
	Title	NUCLEAR FACILITY OPERATIONS MANAGER		
<b>Originator:</b>	Name	DERMODY, RICHARD J		
	Phone	(803) 725-3113		
	Title	LEAD ADMIN. SPECIALIST-A		
<b>HQ OC Notification:</b>	Date	Time	Person Notified	Organization
	NA	NA	NA	NA
<b>Other Notifications:</b>	Date	Time	Person Notified	Organization
	03/18/2010	17:15 (ETZ)	W. Tadlock	ROD
	03/18/2010	17:15 (ETZ)	M. Swain	ROD
	03/18/2010	17:15 (ETZ)	F. Franklin	ROD
	03/18/2010	17:20 (ETZ)	N. Dicks	Maint
	03/18/2010	17:35 (ETZ)	D. Burnfield	DNFSB
	03/18/2010	17:35 (ETZ)	F. Roemer	DOE-FR
	03/18/2010	17:45 (ETZ)	SM - SRSOC	SRNS
	03/18/2010	17:55 (ETZ)	J. McAlhaney	SERB
	03/18/2010	18:00 (ETZ)	M. Smith	ENG
<b>Authorized Classifier(AC):</b>	Faye Tietze      Date: 03/22/2010			
<b>7)Report Number:</b>	<a href="#">EM-SR--SRNS-SRNL-2010-0004</a> After 2003 Redesign			
<b>Secretarial Office:</b>	Environmental Management			
<b>Lab/Site/Org:</b>	Savannah River Site			
<b>Facility Name:</b>	Savannah River National Laboratory			
<b>Subject/Title:</b>	Inadvertent Contact with Energized Conductor, 735-A, Rm D-137			
<b>Date/Time Discovered:</b>	03/29/2010 14:00 (ETZ)			
<b>Date/Time Categorized:</b>	03/29/2010 15:50 (ETZ)			
<b>Report Type:</b>	Notification/Final			
<b>Report Dates:</b>	Notification	03/31/2010	12:16 (ETZ)	
	Initial Update	03/31/2010	12:16 (ETZ)	
	Latest Update	03/31/2010	12:16 (ETZ)	
	Final	03/31/2010	12:16 (ETZ)	
<b>Significance Category:</b>	4			
<b>Reporting Criteria:</b>	10(2) - An event, condition, or series of events that does not meet any of the other reporting criteria, but is determined by the Facility Manager or			

	line management to be of safety significance or of concern to other facilities or activities in the DOE complex. One of the four significance categories should be assigned to the occurrence, based on an evaluation of the potential risks and the corrective actions taken. (1 of 4 criteria - This is a SC 4 occurrence)
<b>Cause Codes:</b>	
<b>ISM:</b>	4) Perform Work Within Controls
<b>Subcontractor Involved:</b>	No
<b>Occurrence Description:</b>	A Construction Electrician penetrated an electrical conduit that contained energized 120 volt conductors while drilling three 1.5" holes through a wall. The electrical circuit tripped and the lights in the room went out. The electrician immediately stopped work and notified his manager. No electrical shock or injury resulted. The electrician was wearing appropriate PPE for the job, including safety glasses and leather gloves, and using a battery powered drill. The Site Electrical Safety Review Board calculated an EFCOG electrical severity score of 110 (medium hazard - Sig. Cat. 4) for this event.
<b>Cause Description:</b>	The electrician incorrectly measured and laid out location of holes to drill. Human error; inattention to detail.
<b>Operating Conditions:</b>	Normal
<b>Activity Category:</b>	Construction
<b>Immediate Action(s):</b>	- The work area was placed in a safe condition and the affected breaker panel was barricaded - All SRNL drilling and penetration activities by construction and maintenance were immediately placed on hold until fact finding activities and any related corrective actions are complete.
<b>FM Evaluation:</b>	No impact on safe facility operations.
<b>DOE Facility Representative Input:</b>	
<b>DOE Program Manager Input:</b>	
<b>Further Evaluation is Required:</b>	No
<b>Division or Project:</b>	SRNL
<b>Plant Area:</b>	A-Area
<b>System/Building/Equipment:</b>	735-A
<b>Facility Function:</b>	Laboratory - Research & Development
<b>Corrective Action:</b>	
<b>Lessons(s) Learned:</b>	A lessons learned will be developed and presented to Construction and SRNL Maintenance personnel and made available to the Site Lessons Learned organization for further distribution.
<b>HQ Keywords:</b>	01A--Inadequate Conduct of Operations - Inadequate Conduct of

	Operations (miscellaneous) 01M--Inadequate Conduct of Operations - Inadequate Job Planning (Electrical) 01Q--Inadequate Conduct of Operations - Personnel error 07D--Electrical Systems - Electrical Wiring 08H--OSHA Reportable/Industrial Hygiene - Safety Noncompliance 12C--EH Categories - Electrical Safety 14E--Quality Assurance - Work Process Deficiency																																							
<b>HQ Summary:</b>	On March 29, 2010, a construction electrician penetrated an electrical conduit that contained energized 120V conductors while drilling three holes through a wall. The electrical circuit tripped and the room lights went out. The electrician immediately stopped work and notified his manager. No electrical shock or injury resulted. The electrician was wearing appropriate PPE for the job, including safety glasses and leather gloves, and using a battery powered drill. The Site Electrical Safety Review Board calculated an EFCOG electrical severity score of 110 for this event. The work area was placed in a safe condition and the affected breaker panel was barricaded. All SRNL drilling and penetration activities in construction and maintenance were immediately placed on hold until fact finding activities and any related corrective actions are complete.																																							
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<b>Authorized Classifier(AC):</b>	Faye Tietze      Date: 03/31/2010																																							

<b>8)Report Number:</b>	<a href="#">NA--KCSO-AS-KCP-2010-0001</a> After 2003 Redesign		
<b>Secretarial Office:</b>	National Nuclear Security Administration		
<b>Lab/Site/Org:</b>	Kansas City Plant		
<b>Facility Name:</b>	Kansas City Plant		
<b>Subject/Title:</b>	Electrical Near-Miss		
<b>Date/Time Discovered:</b>	03/24/2010 11:00 (CTZ)		
<b>Date/Time Categorized:</b>	03/24/2010 15:30 (CTZ)		
<b>Report Type:</b>	Notification		
<b>Report Dates:</b>	Notification	03/25/2010	16:19 (ETZ)
	Initial Update		
	Latest Update		
	Final		
<b>Significance Category:</b>	3		
<b>Reporting Criteria:</b>	10(3) - A near miss, where no barrier or only one barrier prevented an event from having a reportable consequence. One of the four significance categories should be assigned to the near miss, based on an evaluation of the potential risks and the corrective actions taken. (1 of 4 criteria - This is a SC 3 occurrence)		
<b>Cause Codes:</b>			
<b>ISM:</b>	4) Perform Work Within Controls		
<b>Subcontractor Involved:</b>	Yes Intertek Testing Services NA, Inc.		
<b>Occurrence Description:</b>	<p>On March 24, 2010, at approximately 11:00 a.m., while verifying voltage to an X-Ray machine, one of the voltage probes of a voltage meter being used by an employee of Intertek Testing Services NA, Inc. (subcontracted by GE)working to complete Nationally Recognized Testing Laboratory (NRTL) certification, made contact to a grounded surface causing a short which resulted in a 60-amp and a 100-amp 240-volt 2-pole breakers to trip. The subcontractor was not wearing safety glasses or dielectric gloves as required by NFPA 70E.</p> <p>The x-ray system was procured by Honeywell FM&amp;T from General Electric Inspection Technologies LP. The contract with GE included installation of the system into existing x-ray facilities at FM&amp;T by a trained GE installation and service expert, and labeling and certification by a Nationally Recognized Testing Laboratory (NRTL) representative who was subcontracted by GE. GE chose to contract with Intertek Testing Services NA, Inc., a company authorized by the Occupational Safety and Health Association (OSHA) to perform NRTL certifications.</p> <p>No injury occurred as a result of this event. Property damage is being evaluated and is anticipated to be minimal.</p>		



<b>Cause Description:</b>	TBD							
<b>Operating Conditions:</b>	Normal							
<b>Activity Category:</b>	Inspection/Monitoring							
<b>Immediate Action(s):</b>	The scene was secured. The equipment was locked out. An investigation was initiated.							
<b>FM Evaluation:</b>	Investigation initiated on 3/24/2010.							
<b>DOE Facility Representative Input:</b>								
<b>DOE Program Manager Input:</b>								
<b>Further Evaluation is Required:</b>	Yes. Before Further Operation? No By Whom: HS&E By When:							
<b>Division or Project:</b>	Honeywell Federal Mfg. & Technologies Kansas City							
<b>Plant Area:</b>	Main Building							
<b>System/Building/Equipment:</b>	X-Ray Equipment							
<b>Facility Function:</b>	Balance of Plant - Infrastructure (Other Functions not specifically listed in this Category)							
<b>Corrective Action:</b>								
<b>Lessons(s) Learned:</b>	TBD							
<b>HQ Keywords:</b>	08H--OSHA Reportable/Industrial Hygiene - Safety Noncompliance 08J--OSHA Reportable/Industrial Hygiene - Near Miss (Electrical) 11G--Other - Subcontractor 12K--EH Categories - Near Miss (Could have been a serious injury or fatality) 14E--Quality Assurance - Work Process Deficiency 14G--Quality Assurance - Procurement Deficiency							
<b>HQ Summary:</b>	On March 24, 2010, while a subcontractor was verifying voltage to an x-ray machine to complete Nationally Recognized Testing Laboratory certification, one of the voltage probes of a voltmeter touched a grounded surface causing a short. The short tripped a 60-amp and a 100-amp, 240-volt, 2-pole circuit breaker. The subcontractor was not wearing safety glasses or dielectric gloves as required by NFPA 70E. The scene was secured and the equipment was locked out. An investigation was initiated. No injury occurred as a result of this event and property damage is being evaluated and is anticipated to be minimal.							
<b>Similar OR Report Number:</b>	1. TBD							
<b>Facility Manager:</b>	<table border="1"> <tr> <td>Name</td> <td>TAYLOR, LINDA M</td> </tr> <tr> <td>Phone</td> <td>(816) 997-3747</td> </tr> <tr> <td>Title</td> <td>ES&amp;H COORDINATOR</td> </tr> </table>		Name	TAYLOR, LINDA M	Phone	(816) 997-3747	Title	ES&H COORDINATOR
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	Phone	(816) 997-3747		
	Title	ES&H COORDINATOR		
<b>HQ OC Notification:</b>	Date	Time	Person Notified	Organization
	NA	NA	NA	NA
<b>Other Notifications:</b>	Date	Time	Person Notified	Organization
	03/25/2010	14:40 (CTZ)	Kevin Smith	KCSO
<b>Authorized Classifier(AC):</b>	Nelson Beard      Date: 03/25/2010			

<b>9)Report Number:</b>	<a href="#">NA--LASO-LANL-PHYSTECH-2010-0006</a> After 2003 Redesign		
<b>Secretarial Office:</b>	National Nuclear Security Administration		
<b>Lab/Site/Org:</b>	Los Alamos National Laboratory		
<b>Facility Name:</b>	Physical and Technical Supt.		
<b>Subject/Title:</b>	Management Concern: Boom of Forklift Contacts De-Energized Overhead Electrical Line during Material Transport		
<b>Date/Time Discovered:</b>	03/20/2010 18:16 (MTZ)		
<b>Date/Time Categorized:</b>	03/20/2010 20:50 (MTZ)		
<b>Report Type:</b>	Notification/Final		
<b>Report Dates:</b>	Notification	03/24/2010	19:55 (ETZ)
	Initial Update	03/24/2010	19:55 (ETZ)
	Latest Update	03/24/2010	19:55 (ETZ)
	Final	03/24/2010	19:55 (ETZ)
<b>Significance Category:</b>	4		
<b>Reporting Criteria:</b>	10(2) - An event, condition, or series of events that does not meet any of the other reporting criteria, but is determined by the Facility Manager or line management to be of safety significance or of concern to other facilities or activities in the DOE complex. One of the four significance categories should be assigned to the occurrence, based on an evaluation of the potential risks and the corrective actions taken. (1 of 4 criteria - This is a SC 4 occurrence)		
<b>Cause Codes:</b>	A3B1C01 - Human Performance Less Than Adequate (LTA); Skill Based Errors; Check of work was LTA -->couplet - A4B4C06 - Management Problem; Supervisory Methods LTA; Job performance and self-checking standards not properly communicated A4B1C03 - Management Problem; Management Methods Less Than Adequate (LTA); Management direction created insufficient awareness of the impact of actions on safety / reliability		
<b>ISM:</b>	2) Analyze the Hazards		
<b>Subcontractor Involved:</b>	Yes Layne Christensen Drilling Company & Northwind		

<p><b>Occurrence Description:</b></p>	<p>MANAGEMENT SYNOPSIS: On Saturday, March 20, 2010, at 1816, as a Layne Christiansen Drilling Company worker (W1) was transporting a 50-foot length of 6-inch discharge hose from Technical Area 49 Well Site R-29 to R-30 using a SkyTrak forklift with a boom, the boom contacted a de-energized overhead electrical line snapping the line from the utility pole. W1 had driven the forklift approximately a quarter mile on a dirt access road with the hose looped through the sling which was attached to the boom. The forks were not attached to the forklift at the time. The power line was located approximately eighteen feet high while the boom was raised to nearly twenty feet. W1 subsequently stated his view was obstructed by the glare of the setting sun; therefore, he did not see the overhead electrical line as he moved the load. After verifying no contact with the downed electrical line was made, he exited the forklift cab and unhooked the load. He then drove back to Well Site R-29 and reported the event to the North Wind (NWI) sample technician lead. Following the event, the utility linemen responded to the scene and verified the electrical line was de-energized. The downed power line was wound up and placed next to the utility pole. The electrical line was determined to be a 480/277 volt secondary service line for TA-49. Well Site R-30 was secured and work activities paused pending further review. No personnel injuries resulted from the event.</p> <p>At 2050, the Utilities and Infrastructure (U&amp;I) Facility Operations Director (FOD) Designee was notified of the event. Based on the preliminary information provided, the U&amp;I FOD Designee categorized the event as sub-threshold reportable. On March 22, 2010, a critique was convened. Because there were two barriers (electrical line was insulated and de-energized) in place, the event did not constitute a near miss. Information was collected that an inadequate hazard assessment of the access and transport routes was performed and worker guidance on the methods and equipment use for material transports between well sites was lacking. As a result, the U&amp;I FOD Designee re-categorized the event as a management concern.</p> <p>Following the event, the LANL Chief Electrical Safety Officer evaluated the event using the Electrical Severity Measurement Tool. Because the electrical line was de-energized and personnel were not exposed to hazardous electrical energy, the evaluation resulted in a score of zero.</p>
<p><b>Cause Description:</b></p>	<p>ISM SUMMARY: Worker used a forklift with a boom improperly to transport material from one site to another. Because of an inadequate site and task hazard analysis and the lack of worker guidance for material transports, the boom impacted a de-energized electrical line. This is a deficiency of ISM Step 2, Analyze the Hazards.</p> <p>INVESTIGATIVE METHODOLOGY</p>

Following the event, the NWI management conducted an incident investigation and review of the event. Excerpts from this investigation have been included in this report. Apparent causal analysis and the DOE Causal Analysis Tree as described in the DOE Occurrence Reporting Causal Analysis Guide (DOE G 231.1-2) were used to identify the causes for this event. Apparent causes are identified as the most probable causes of an event or condition that management has the control to fix and for which effective recommendations for corrective actions can be generated. The apparent causes identified for this event, which capture the deficiencies described below are (A3B1C01) Check of Work was Less Than Adequate, (A4B4C06) Job Performance and Self-Checking Standards Not Properly Communicated and (A4B1C03) Management Direction Created Insufficient Awareness of Impact of Actions on Safety/Reliability.

## BACKGROUND

The North Wind, Inc., (NWI) is the primary subcontractor to the Laboratory's Project Management and Field Services (PMFS) of the Associate Directorate for Environmental Programs for drilling operations at the LANL well sites. Layne Christiansen Drilling Company is a subcontractor to NWI to perform the drilling work activities at the LANL well sites.

## EVENT SEQUENCE

At 1802, W1 left Well Site R-30 to go to Well Site R-29 to pick up the discharge hose. He arrived at R-29 and prepared the load for transport.

At 1815, W1 left Well Site R-29 operating the forklift with the boom raised and the load from R-29 to R-30. He indicated the load was approximately two feet off the ground. With the discharge hose wound up around the sling and rigging, the length of the load was estimated to be 17 to 17.5 feet which made the total height of the load at the time approximately 19 to 19.5 feet above the ground surface. The hose and rigging were approximately 13.5 – 14 feet in length, the rigging on the fork lift was approximately 3.5 feet, and the travel height was estimated to be approximately 2 feet above ground level.

At 1816, just before the intersection of the R-29 road and the one-way loop road, the boom of the forklift contacted the overhead electrical line snapping the line off the south utility pole. W1 had driven about a quarter of a mile when the incident occurred. He checked to make sure he was not in contact with the downed power line and then exited the forklift cab. W1 unhooked the load and drove back to R-29.

At 1820, W1 notified the NWI sample technician lead of the event. The

NWI sample technician lead then made notifications to the NWI field operations manager, R-30 geologist and TA-49 person-in-charge, and the LANL subcontract technical representative. Further notifications were made to the NWI, Layne Christensen, and LANL Water Stewardship management, the U&I FOD Designee, and emergency response personnel.

At 1905, LANL utility linemen arrived on scene and evaluated the situation. They determined that the downed power line was de-energized. It appeared that the line was fed from the south utility pole which came in from an adjacent nuclear environmental site and continued along the loop road to the north. The line appeared to terminate at a utility pole around the corner on the loop road. The linemen wound up the downed line and left it next to the north utility pole pending disposition.

At 1912, after the LANL STR gave the authorization, the fork lift was moved from the road.

At 1915, Layne Christensen personnel secured the Well Site R-30. NWI management paused the work at R-30 as well as all material transports on other drill sites pending an incident review and site condition assessment. All personnel were instructed to report to the NWI office for an incident review.

At 1938, the LANL STR escorted emergency response personnel to the site for investigative purposes.

## CAUSAL ANALYSIS

W1 subsequently indicated he drove the forklift in a westward direction at the time the sun was setting (at 1815). He stated that the glare from the sun obstructed his vision and did not previously recall seeing the overhead electrical line in the area. The crew was scheduled to work a 12-hour shift on that day which had started at 0700. At the time of the event, W1 was about to complete his shift for the day. It is suspected that W1 may have been in a hurry to complete the material transport before the end of his shift and had not adequately assessed the activity or site hazards before he performed the material transport. Layne Christensen management indicated that material transports between well sites were normally performed using a flat bed vehicle. A flatbed vehicle was available for use at the well site at the time of the event. Because W1 was unavailable for an interview, the investigation could not determine why he chose to use the forklift instead of the flatbed vehicle. Subsequent review found that worker guidance on methods and equipment use for material transports between well sites was lacking. Therefore, the human performance causal factor that best describes this scenario is (A3B1C01) Check of Work was Less Than Adequate with the couplet of (A4B4C06) Job Performance and Self-Checking Standards Not Properly Communicated. The human

	<p>performance error precursor for this scenario is Time Pressure (in a hurry), Urgency or Excessive Pace Required to Perform Action or Task. Corrective Actions 1 through 4 address these causal factors and error precursor.</p> <p>The integrated work document for forklift operations addressed overhead hazards, maintenance clearance distances, and the use of a spotter. Review of the IWD and W1's training record showed he was currently certified as a forklift operator and was authorized to work under the forklift IWD. At the time of the event, W1 was working alone with no spotter. According to Layne Christensen management, the nearest worker was located approximately 200 yards away. As previously mentioned, a flat bed vehicle was available for use at the job site at the time, but W1 elected not use the flatbed to transport the material. The investigation concluded that the forklift was improperly used and rigged to transport materials. Although the forklift IWD addressed overhead hazards, the activity and site hazard assessment of access roads and material transport routes in drill sites and open space areas were found to be inadequate. The causal factor that best describe this scenario is (A4B1C03) Management Direction Created Insufficient Awareness of Impact of Actions on Safety/Reliability. Corrective Actions 2 through 5 address these causal factors.</p> <p>Although not causal to the event, a concern was raised during the critique relative to the availability and use of an automatic external defibrillator (AED) in case of an emergency for work on the well sites and open spaces. According to PMFS management, the well sites do not currently have or are not required to have an AED on-site. Corrective Action 6 addresses this concern.</p>
<b>Operating Conditions:</b>	Material Transport Activities
<b>Activity Category:</b>	Transportation Onsite
<b>Immediate Action(s):</b>	<ol style="list-style-type: none"> <li>1. Layne Christian personnel placed Well Site R-30 in a safe configuration and barricaded the area with caution tape.</li> <li>2. Utility linemen verified the downed electrical line was de-energized and placed it in a safe configuration pending disposition</li> <li>3. North Wind management paused work activities on Well Site R-30 as well as all material transports on other drill sites pending further evaluation and initiated an incident investigation.</li> <li>4. Notifications were made to management of Layne Christensen, NWI, and LANL Project Management and Field Services and the U&amp;I FOD Designee.</li> </ol>
<b>FM Evaluation:</b>	
<b>DOE Facility Representative Input:</b>	

<b>DOE Program Manager Input:</b>			
<b>Further Evaluation is Required:</b>	No		
<b>Division or Project:</b>	Project Management and Field Services		
<b>Plant Area:</b>	TA-49 Well Sites		
<b>System/Building/Equipment:</b>	480/277 Volt Secondary Electrical Line		
<b>Facility Function:</b>	Balance-of-Plant - Site/outside utilities		
<b>Corrective Action 01:</b>	<table border="1"> <tr> <td><b>Target Completion Date:</b>03/22/2010</td> <td><b>Actual Completion Date:</b>03/22/2010</td> </tr> </table> <p>Title: Conducted Safety Review with Workers</p> <p>The North Wind Inc., and Layne Christensen management conducted a safety review of the event specifically the material transfer process with workers. Management reviewed the forklift safety requirements emphasizing the spotter requirements for forklift operations, site and overhead hazards, the material transfer process, and worker safety expectations during well site operations.</p> <p>Responsible Organization: PMFS</p> <p>Deliverable: Documentation showing the completion of the safety review with workers (i.e., rosters, review notes, presentation materials, etc.)</p>	<b>Target Completion Date:</b> 03/22/2010	<b>Actual Completion Date:</b> 03/22/2010
<b>Target Completion Date:</b> 03/22/2010	<b>Actual Completion Date:</b> 03/22/2010		
<b>Corrective Action 02:</b>	<table border="1"> <tr> <td><b>Target Completion Date:</b>03/26/2010</td> <td><b>Actual Completion Date:</b></td> </tr> </table> <p>Title: Conduct an Assessment of Access and Material Transport Routes at Well Sites</p> <p>The Project Management and Field Services (PMFS) management will task their subcontractor management to conduct an assessment of access and material transport routes at all LANL well site operations to determine if there are any power lines that need to be identified and controls instituted to integrated work documents (IWDs). The assessment will evaluate any operations involving equipment or material movement at heights that may pose risk in terms of maintaining appropriate distances from power lines (IWDs currently require and specify distances from high voltage lines).</p> <p>Responsible Organization: PMFS</p> <p>Deliverable: A copy of the approved and issued assessment documentation of access and material transport routes at LANL well sites with recommendations and/or conclusions.</p>	<b>Target Completion Date:</b> 03/26/2010	<b>Actual Completion Date:</b>
<b>Target Completion Date:</b> 03/26/2010	<b>Actual Completion Date:</b>		
<b>Corrective Action 03:</b>	<table border="1"> <tr> <td><b>Target Completion</b></td> <td><b>Actual Completion</b></td> </tr> </table>	<b>Target Completion</b>	<b>Actual Completion</b>
<b>Target Completion</b>	<b>Actual Completion</b>		

	<b>Date:</b> 03/23/2010	<b>Date:</b> 03/23/2010
	<p>Title: Updated Work Documentation for Drilling Operations</p> <p>The Project Management and Field Services (PMFS) management tasked their subcontractor management to update their integrated work document for drilling operations at LANL well sites if warranted. The drilling operations IWD was updated so that workers are aware of power lines along access or transport routes as well as hazard controls, stated how to respond if a power line is hit, and defined the correct methods and equipment to use when transporting material along access or material movement routes. The updated IWD was submitted to the Utilities and Infrastructure (U&amp;I) operations management for review and approval. Following approval and re-briefing with affected workers, the U&amp;I Facility Operations Director Designee re-authorized the resumption of drilling operations.</p> <p>Responsible Organization: PMFS</p> <p>Deliverable: A copy of the revised and U&amp;I operations management approved IWD for drilling operations.</p>	
<b>Corrective Action 04:</b>	<b>Target Completion Date:</b> 03/23/2010	<b>Actual Completion Date:</b> 03/23/2010
	<p>Title: Briefed Workers on the Revised Integrated Work Documents for Drilling Operations</p> <p>The Project Management and Field Services (PMFS) management tasked their subcontractor management to brief subcontractor personnel on the revised and approved integrated work document (IWD) for drilling operations at the LANL drill sites.</p> <p>Responsible Organization: PMFS</p> <p>Deliverable: Documentation showing the affected subcontractor personnel were briefed to the revised and approved IWD for drilling operations (i.e., roster, briefing materials, etc.)</p>	
<b>Corrective Action 05:</b>	<b>Target Completion Date:</b> 05/28/2010 <b>Actual Completion Date:</b>	
	<p>Title: Develop and Distribute Event Lessons Learned Document</p> <p>The Project Management and Field Services (PMFS) management in conjunction with their subcontractor management will develop and distribute an event lessons learned document. The document will be shared with other organizations within the Associate Directorate for Environmental Programs (ADEP) during an upcoming monthly subcontractors meeting.</p>	



	<p>Responsible Organization: PMFS</p> <p>Deliverable: A copy of the approved and issued event lessons learned document and documentation showing the event lessons learned was shared with other ADEP organizations (i.e., meeting roster, agenda, meeting notes, presentation material, etc.)</p>		
<b>Corrective Action 06:</b>	<table border="1"> <tr> <td><b>Target Completion Date:</b>04/26/2010</td> <td><b>Actual Completion Date:</b></td> </tr> </table>	<b>Target Completion Date:</b> 04/26/2010	<b>Actual Completion Date:</b>
<b>Target Completion Date:</b> 04/26/2010	<b>Actual Completion Date:</b>		
	<p>Title: Assess the Use of an Automatic External Defibrillator for Well Site Operations</p> <p>The Project Management and Field Services (PMFS) management will task their drilling subcontractor technical representative to assess the use of an Automatic External Defibrillator (AED) at well site operations and for potential inclusion in Exhibit F of the subcontractor contract.</p> <p>Responsible Organization: PMFS</p> <p>Deliverable: A copy of the approved and issued AED assessment documentation with conclusions and/or recommendations.</p>		
<b>Lessons(s) Learned:</b>			
<b>HQ Keywords:</b>	<p>01A--Inadequate Conduct of Operations - Inadequate Conduct of Operations (miscellaneous)</p> <p>01N--Inadequate Conduct of Operations - Inadequate Job Planning (Other)</p> <p>01R--Inadequate Conduct of Operations - Management issues</p> <p>07B--Electrical Systems - Electrical Distribution</p> <p>08F--OSHA Reportable/Industrial Hygiene - Industrial Operations Issues</p> <p>11G--Other - Subcontractor</p> <p>12C--EH Categories - Electrical Safety</p> <p>14D--Quality Assurance - Documents and Records Deficiency</p> <p>14E--Quality Assurance - Work Process Deficiency</p> <p>14G--Quality Assurance - Procurement Deficiency</p> <p>14H--Quality Assurance - Inspection and Acceptance Testing Deficiency</p> <p>14I--Quality Assurance - Management Assessment Deficiency</p>		
<b>HQ Summary:</b>	<p>On March 20, 2010, a Layne Christiansen Drilling Company worker using a SkyTrak forklift with a boom, contacted a de-energized overhead electrical line, snapping the line from the utility pole. The worker was transporting a 50-foot length of 6-inch discharge hose from Technical Area 49 Well Site R-29 to R-30. The worker had driven the forklift approximately a quarter mile on a dirt access road with the hose looped through the sling, which was attached to the boom. The forks were not attached to the forklift at the time. The power line was located approximately 18-feet high while the boom was raised to nearly 20 feet. After verifying no contact was made with the downed electrical line, the worker exited the forklift cab, unhooked the load, and drove back to Well Site R-29. The worker reported the event to the North Wind sample technician lead. Utility linemen responded to the scene and verified the</p>		

electrical line was de-energized. The downed power line was wound up and placed next to the utility pole. The electrical line was determined to be a 480/277V secondary service line for TA-49. Well Site R-30 was secured and work activities paused pending further review. The worker subsequently stated his view was obstructed by the glare of the setting sun. No personnel injuries resulted. Additional notifications were made.

**Similar OR Report Number:**

**Facility Manager:**

Name	Lawrence Chavez
Phone	(505) 669-7606
Title	U&I Facility Operations Director Designee

**Originator:**

Name	YAZZIE, ALVA M
Phone	(505) 664-0666
Title	OCCURRENCE INVESTIGATOR

**HQ OC Notification:**

Date	Time	Person Notified	Organization
NA	NA	NA	NA

**Other Notifications:**

Date	Time	Person Notified	Organization
03/20/2010	19:08 (MTZ)	Notification Line	NNSA
03/22/2010	11:20 (MTZ)	Ed Christie	NNSA
03/22/2010	15:06 (MTZ)	Jeff Williams	NNSA
03/22/2010	15:06 (MTZ)	Dave George	NNSA

**Authorized Classifier(AC):**

Linda Collier Date: 03/24/2010

**10)Report Number:**

[NA--NVSO-NST-NTS-2010-0007](#) After 2003 Redesign

**Secretarial Office:**

National Nuclear Security Administration

**Lab/Site/Org:**

Nevada Test Site

**Facility Name:**

Nevada Test Site

**Subject/Title:**

Electrical Shock From Wall Switch

**Date/Time Discovered:**

03/04/2010 16:00 (PTZ)

**Date/Time Categorized:**

03/04/2010 16:30 (PTZ)

**Report Type:**

Notification/Final

**Report Dates:**

Notification	03/04/2010	20:32 (ETZ)
Initial Update	03/04/2010	20:32 (ETZ)
Latest Update	03/04/2010	20:32 (ETZ)
Final	03/04/2010	20:32 (ETZ)

**Significance Category:**

4

**Reporting Criteria:**

10(2) - An event, condition, or series of events that does not meet any of the other reporting criteria, but is determined by the Facility Manager or

	line management to be of safety significance or of concern to other facilities or activities in the DOE complex. One of the four significance categories should be assigned to the occurrence, based on an evaluation of the potential risks and the corrective actions taken. (1 of 4 criteria - This is a SC 4 occurrence)
<b>Cause Codes:</b>	
<b>ISM:</b>	6) N/A (Not applicable to ISM Core Functions as determined by management review.)
<b>Subcontractor Involved:</b>	No
<b>Occurrence Description:</b>	<p>On March 4, 2010, 1600 hours, a National Security Technologies, LLC (NSTec) plumber was working on decommissioning the water supply to an unoccupied and inactive building. He observed a light on in a closet and when he attempted to turn off the light he experienced a dry hand shock from the 120-V wall switch. Evidence of an arc can be seen between the switch plate and the wall. No electrical work was underway.</p> <p>The employee was taken to NSTec Occupational Medicine and released to full duty.</p>
<b>Cause Description:</b>	
<b>Operating Conditions:</b>	Does Not Apply
<b>Activity Category:</b>	Normal Operations (other than Activities specifically listed in this Category)
<b>Immediate Action(s):</b>	<p>Employee was transported to NSTec Occupational Medicine for evaluation.</p> <p>Electricians disconnect the power supply to facility at the main breaker and access to the facility was secured.</p> <p>Notifications made to NSTec and NNSA/Nevada Site Office line management.</p> <p>Management review scheduled.</p>
<b>FM Evaluation:</b>	
<b>DOE Facility Representative Input:</b>	
<b>DOE Program Manager Input:</b>	
<b>Further Evaluation is Required:</b>	No
<b>Division or Project:</b>	Zone 1
<b>Plant Area:</b>	NTS-Area 23
<b>System/Building/Equipment:</b>	Dormitory 23-476
<b>Facility Function:</b>	Balance of Plant - Infrastructure (Other Functions not specifically listed in

	this Category)												
<b>Corrective Action:</b>													
<b>Lessons(s) Learned:</b>													
<b>HQ Keywords:</b>	07D--Electrical Systems - Electrical Wiring 08A--OSHA Reportable/Industrial Hygiene - Electrical Shock 12C--EH Categories - Electrical Safety 14L--Quality Assurance - No QA Deficiency												
<b>HQ Summary:</b>	On March 4, 2010, a National Security Technologies, LLC (NSTec) plumber received an electrical shock while working on decommissioning the water supply to an unoccupied and inactive building. He observed a light on in a closet and when he attempted to turn off the light, he experienced a dry hand shock from the 120-volt wall switch. Evidence of an arc can be seen between the switch plate and the wall. The plumber was taken to the NSTec Occupational Medicine facility and was released to full duty. Electricians disconnected the facility power supply at the main circuit breaker. Facility access was secured and management notifications were made.												
<b>Similar OR Report Number:</b>	1. NA--NVSO-NST-NTS-2009-0007 2. EM--NVSO-NST-NTS-2010-0004												
<b>Facility Manager:</b>	<table border="1"> <tr> <td>Name</td> <td>Rhyan Andrews</td> </tr> <tr> <td>Phone</td> <td>(702) 295-6460</td> </tr> <tr> <td>Title</td> <td>Zone 1 Manager</td> </tr> </table>	Name	Rhyan Andrews	Phone	(702) 295-6460	Title	Zone 1 Manager						
Name	Rhyan Andrews												
Phone	(702) 295-6460												
Title	Zone 1 Manager												
<b>Originator:</b>	<table border="1"> <tr> <td>Name</td> <td>GILE, ANDREA L</td> </tr> <tr> <td>Phone</td> <td>(702) 295-7438</td> </tr> <tr> <td>Title</td> <td>PROJECT OPERATIONS SPEC.</td> </tr> </table>	Name	GILE, ANDREA L	Phone	(702) 295-7438	Title	PROJECT OPERATIONS SPEC.						
Name	GILE, ANDREA L												
Phone	(702) 295-7438												
Title	PROJECT OPERATIONS SPEC.												
<b>HQ OC Notification:</b>	<table border="1"> <thead> <tr> <th>Date</th> <th>Time</th> <th>Person Notified</th> <th>Organization</th> </tr> </thead> <tbody> <tr> <td>NA</td> <td>NA</td> <td>NA</td> <td>NA</td> </tr> </tbody> </table>	Date	Time	Person Notified	Organization	NA	NA	NA	NA				
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NA	NA	NA	NA										
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Date	Time	Person Notified	Organization										
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03/04/2010	16:30 (PTZ)	James Mumma	NSO/FR										
<b>Authorized Classifier(AC):</b>	Jason Prestridge      Date: 03/04/2010												
<b>11)Report Number:</b>	<a href="#">NA--SS-SNL-2000-2010-0002</a> After 2003 Redesign												
<b>Secretarial Office:</b>	National Nuclear Security Administration												
<b>Lab/Site/Org:</b>	Sandia National Laboratories - SS												
<b>Facility Name:</b>	SNL Division 2000												
<b>Subject/Title:</b>	Electrical Shock during Troubleshooting in Bldg. 870												
<b>Date/Time Discovered:</b>	03/30/2010 09:55 (MTZ)												
<b>Date/Time Categorized:</b>	03/30/2010 11:30 (MTZ)												

<b>Report Type:</b>	Update		
<b>Report Dates:</b>	Notification	03/31/2010	19:28 (ETZ)
	Initial Update	04/01/2010	11:10 (ETZ)
	Latest Update	04/01/2010	17:52 (ETZ)
	Final		
<b>Significance Category:</b>	2		
<b>Reporting Criteria:</b>	2C(1) - Failure to follow a prescribed hazardous energy control process (e.g., lockout/tagout) or disturbance of a previously unknown or mislocated hazardous energy source (e.g., live electrical power circuit, steam line, pressurized gas) resulting in a person contacting (burn, shock, etc.) hazardous energy.		
<b>Cause Codes:</b>			
<b>ISM:</b>	4) Perform Work Within Controls		
<b>Subcontractor Involved:</b>	No		
<b>Occurrence Description:</b>	On 3/30/10, at approximately 0955 hrs, a worker received a static electrical shock during troubleshooting of a neutron tube test unit under development. The source of the shock was a ground cable which had been left disconnected during the test operation and had acquired a floating charge. The voltage was high, but the pulse duration was extremely short. The Electrical Severity (ES) score was 1650 by SNL Corporate Electrical Safety personnel.		
<b>Cause Description:</b>	Critique/Fact Finding Performed: 3/30/10		
<b>Operating Conditions:</b>	Normal		
<b>Activity Category:</b>	Facility/System/Equipment Testing		
<b>Immediate Action(s):</b>	The affected individual was taken to medical, evaluated, and found to be uninjured (no treatment needed). The equipment was de-energized and isolated for evaluation of the event.		
<b>FM Evaluation:</b>	EOC #15567		
<b>DOE Facility Representative Input:</b>			
<b>DOE Program Manager Input:</b>			
<b>Further Evaluation is Required:</b>	Yes. Before Further Operation? No By Whom: Causal Analysis Team By When: 05/14/2010		
<b>Division or Project:</b>	2000/Responsive NG Product Deployment Center		
<b>Plant Area:</b>	Tech Area I		
<b>System/Building/Equipment:</b>	Neutron Tube Tester/Bldg. 870, Rm. 2302		
<b>Facility Function:</b>	Tritium Activities		

<b>Corrective Action:</b>																																	
<b>Lessons(s) Learned:</b>																																	
<b>HQ Keywords:</b>	07D--Electrical Systems - Electrical Wiring 08A--OSHA Reportable/Industrial Hygiene - Electrical Shock 08H--OSHA Reportable/Industrial Hygiene - Safety Noncompliance 12C--EH Categories - Electrical Safety 14E--Quality Assurance - Work Process Deficiency																																
<b>HQ Summary:</b>	On March 30, 2010, a worker received a static electrical shock during troubleshooting of a neutron tube test unit that was under development. The source of the shock was a ground cable that had been left disconnected during the test operation and had acquired a floating charge. The voltage was high, but the pulse duration was extremely short. The worker was evaluated by medical and found to be uninjured. The equipment was de-energized and isolated for evaluation.																																
<b>Similar OR Report Number:</b>																																	
<b>Facility Manager:</b>	<table border="1"> <tr> <td>Name</td> <td>Robert Burkhart</td> </tr> <tr> <td>Phone</td> <td>(505) 844-6497</td> </tr> <tr> <td>Title</td> <td>Center 2700 ES&amp;H Project Lead</td> </tr> </table>	Name	Robert Burkhart	Phone	(505) 844-6497	Title	Center 2700 ES&H Project Lead																										
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<b>Originator:</b>	<table border="1"> <tr> <td>Name</td> <td>LUCERO, JEWEELEE A</td> </tr> <tr> <td>Phone</td> <td>(505) 845-4727</td> </tr> <tr> <td>Title</td> <td>REPORTING ADMINISTRATOR</td> </tr> </table>	Name	LUCERO, JEWEELEE A	Phone	(505) 845-4727	Title	REPORTING ADMINISTRATOR																										
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<b>Authorized Classifier(AC):</b>	Don Malbrough      Date: 03/30/2010																																
<b>12)Report Number:</b>	<a href="#">NE-ID--BEA-ATR-2010-0004</a> After 2003 Redesign																																
<b>Secretarial Office:</b>	Nuclear Energy, Science and Technology																																
<b>Lab/Site/Org:</b>	Idaho National Laboratory																																
<b>Facility Name:</b>	Advanced Test Reactor																																
<b>Subject/Title:</b>	Lockout/Tagout (LO/TO) Violation on Loop 2B M-18 Pump at the																																

	Advanced Test Reactor (ATR)		
<b>Date/Time Discovered:</b>	03/04/2010 14:00 (MTZ)		
<b>Date/Time Categorized:</b>	03/04/2010 14:25 (MTZ)		
<b>Report Type:</b>	Notification		
<b>Report Dates:</b>	Notification	03/09/2010	17:53 (ETZ)
	Initial Update		
	Latest Update		
	Final		
<b>Significance Category:</b>	3		
<b>Reporting Criteria:</b>	2C(2) - Failure to follow a prescribed hazardous energy control process (e.g., lockout/tagout) or a site condition that results in the unexpected discovery of an uncontrolled hazardous energy source (e.g., live electrical power circuit, steam line, pressurized gas). This criterion does not include discoveries made by zero-energy checks and other precautionary investigations made before work is authorized to begin.		
<b>Cause Codes:</b>			
<b>ISM:</b>	4) Perform Work Within Controls		
<b>Subcontractor Involved:</b>	No		
<b>Occurrence Description:</b>	<p>At about 1400 on 4 March 2010 an ATR Programs maintenance electrician violated a LO/TO. The electrician had been assigned to electrically disconnect the M-18 makeup pump motor for the inactive pressurized water loop 2A in accordance with approved Work Order (WO) 118244. Instead, during performance of the task, the electrician electrically disconnected the M-18 makeup pump motor for the active pressurized water loop 2B. No hazardous energy was encountered by the electrician; however, the 2B M-18 pump was selected for automatic control of loop pressurizer level. Loop parameters were such that the pump was not being called upon to be operating, thus there was no electrical energy present during the work. However, 480 VAC would have been applied to the electrical leads being disconnected had the loop control system called for an automatic start of the pump.</p>		
<b>Cause Description:</b>			
<b>Operating Conditions:</b>	The ATR was operating a nominal full power for cycle 146A-1		
<b>Activity Category:</b>	Normal Operations (other than Activities specifically listed in this Category)		
<b>Immediate Action(s):</b>	<p>Appropriate levels of BEA management and DOE-ID were notified of this event.</p> <p>The ATR Shift Supervisor and ATR Operations Manager ensured the disconnected electrical cables were in an electrically safe condition and directed a LO/TO be applied to 2B M-18 pump.</p>		

	A critique was scheduled for March 4, 2010.							
<b>FM Evaluation:</b>								
<b>DOE Facility Representative Input:</b>								
<b>DOE Program Manager Input:</b>								
<b>Further Evaluation is Required:</b>	No							
<b>Division or Project:</b>	ATR Programs							
<b>Plant Area:</b>	Pumps							
<b>System/Building/Equipment:</b>	Advanced Test Reactor							
<b>Facility Function:</b>	Category "A" Reactors							
<b>Corrective Action:</b>								
<b>Lessons(s) Learned:</b>								
<b>HQ Keywords:</b>	01K--Inadequate Conduct of Operations - Lockout/Tagout Noncompliance (Electrical) 01O--Inadequate Conduct of Operations - Inadequate Maintenance 08J--OSHA Reportable/Industrial Hygiene - Near Miss (Electrical) 12K--EH Categories - Near Miss (Could have been a serious injury or fatality) 14E--Quality Assurance - Work Process Deficiency							
<b>HQ Summary:</b>	On March 4, 2010, an ATR Programs maintenance electrician violated a LO/TO. The electrician had been assigned to electrically disconnect the M-18 makeup pump motor for the inactive pressurized water loop 2A in accordance with approved Work Order 118244. Instead, the electrician electrically disconnected the M-18 makeup pump motor for the active pressurized water loop 2B. No hazardous energy was encountered by the electrician; however, the 2B M-18 pump was selected for automatic control of loop pressurizer level. Loop parameters were such that the pump was not being called upon to be operating, thus there was no electrical energy present during the work. However, 480V would have been applied to the electrical leads being disconnected had the loop control system called for an automatic start of the pump. Appropriate levels of management were notified of this event. The disconnected leads were checked to ensure that they were in an electrically safe condition. A LO/TO was applied. A critique was scheduled.							
<b>Similar OR Report Number:</b>								
<b>Facility Manager:</b>	<table border="1"> <tr> <td>Name</td> <td>SCHUEBERT, EDMOND J</td> </tr> <tr> <td>Phone</td> <td>(208) 533-4284</td> </tr> <tr> <td>Title</td> <td>ATR Operations Facility Manager</td> </tr> </table>		Name	SCHUEBERT, EDMOND J	Phone	(208) 533-4284	Title	ATR Operations Facility Manager
Name	SCHUEBERT, EDMOND J							
Phone	(208) 533-4284							
Title	ATR Operations Facility Manager							
<b>Originator:</b>	<table border="1"> <tr> <td>Name</td> <td>OWENS, MARJORIE A</td> </tr> <tr> <td>Phone</td> <td>(208) 533-4563</td> </tr> </table>		Name	OWENS, MARJORIE A	Phone	(208) 533-4563		
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Phone	(208) 533-4563							



	Title	ATR OPERATIONS FACILITY ADMINISTRATI		
<b>HQ OC Notification:</b>	Date	Time	Person Notified	Organization
	NA	NA	NA	NA
<b>Other Notifications:</b>	Date	Time	Person Notified	Organization
	03/04/2010	15:01 (MTZ)	R. Denning	DOE-ID
<b>Authorized Classifier(AC):</b>	Caleb Robinson Date: 03/09/2010			
<b>13)Report Number:</b>	<a href="#">SC--BSO-LBL-OPERATIONS-2010-0002</a> After 2003 Redesign			
<b>Secretarial Office:</b>	Science			
<b>Lab/Site/Org:</b>	Lawrence Berkeley Laboratory			
<b>Facility Name:</b>	Operations Division			
<b>Subject/Title:</b>	Live Conduit Penetrated at Building 66 - No Injuries (ARRA project)			
<b>Date/Time Discovered:</b>	03/10/2010 10:45 (PTZ)			
<b>Date/Time Categorized:</b>	03/10/2010 12:19 (PTZ)			
<b>Report Type:</b>	Notification			
<b>Report Dates:</b>	Notification	03/12/2010	19:16 (ETZ)	
	Initial Update			
	Latest Update			
	Final			
<b>Significance Category:</b>	3			
<b>Reporting Criteria:</b>	2C(2) - Failure to follow a prescribed hazardous energy control process (e.g., lockout/tagout) or a site condition that results in the unexpected discovery of an uncontrolled hazardous energy source (e.g., live electrical power circuit, steam line, pressurized gas). This criterion does not include discoveries made by zero-energy checks and other precautionary investigations made before work is authorized to begin.			
<b>Cause Codes:</b>				
<b>ISM:</b>	2) Analyze the Hazards 3) Develop and Implement Hazard Controls 4) Perform Work Within Controls			
<b>Subcontractor Involved:</b>	Yes Crouse Construction			
<b>Occurrence Description:</b>	<p>Summary: A subcontractor worker drilled into a previously unknown energized electric wire conduit on 03/10/2010. There were no injuries. The work is part of an ARRA-funded project.</p> <p>At approximately 0900 hours on 03/10/2010, a Crouse Construction general laborer drilled into an electric conduit that contained five wires, three of which were energized 208-Volt 3-phase wires. The laborer,</p>			

	trained in concrete drilling, was drilling into the rib of a waffle slab rib as part of anchor installation work in Building 66 Laboratory 219. The work is being conducted under Penetration Permit #1758 which did not require pre-job scanning of the specific waffle slab rib. The existence of the conduit was previously not known. After perforating the conduit with an insulated drill, the laborer saw and heard sparks through the conduit hole, stopped work, and notified supervisor. The incident did not result in personnel injury nor property damage.
<b>Cause Description:</b>	
<b>Operating Conditions:</b>	Indoors, lighted, dry
<b>Activity Category:</b>	Construction
<b>Immediate Action(s):</b>	Penetration work stopped pending further investigation. The source of the hazardous energy was located and shut off.
<b>FM Evaluation:</b>	<p>- Several laboratories on the 2nd floor of B66 are being modified as part of the B66 2nd Floor ARRA GPP (General Plant Projects) Project. LBNL's Current practice in identifying utility locations for certain types of project is to scan a sampling of the concrete ribs to determine the location of any utilities, including conduits. This practice applies to projects in buildings with multiple room modifications containing waffle slab ceilings with ribs as is the cases with this project. The concrete ribs in Room 207 had been scanned and no conduits were present. Permit #1758, under which the penetration drilling in Room 219 was authorized, did not require scanning of the ribs in Room 219 because the sampling of concrete ribs in Room 207 did not identify any conduit. The penetration permit was followed, therefore there was no permit violation. However, during the investigation, the current process will be evaluated.</p> <p>- Facilities electrician was able to locate the wire feeder box which was not being used; all wires have been de-energized and will be removed.</p> <p>- Penetration work at this job site will resume under a new penetration permit which will require pre-job scanning of the waffle slab ribs.</p>
<b>DOE Facility Representative Input:</b>	
<b>DOE Program Manager Input:</b>	
<b>Further Evaluation is Required:</b>	<p>Yes.  Before Further Operation? Yes  By Whom: Facilities Division  By When: 03/19/2010</p>
<b>Division or Project:</b>	Facilities Division
<b>Plant Area:</b>	Building 66
<b>System/Building/Equipment:</b>	Building 66, Lab 219
<b>Facility Function:</b>	Balance of Plant - Infrastructure (Other Functions not specifically listed in this Category)

<b>Corrective Action:</b>									
<b>Lessons(s) Learned:</b>									
<b>HQ Keywords:</b>	01B--Inadequate Conduct of Operations - Loss of Configuration Management/Control 01M--Inadequate Conduct of Operations - Inadequate Job Planning (Electrical) 07D--Electrical Systems - Electrical Wiring 11G--Other - Subcontractor 12C--EH Categories - Electrical Safety 13H--Management Concerns - American Recovery and Reinvestment Act (ARRA) 14D--Quality Assurance - Documents and Records Deficiency 14E--Quality Assurance - Work Process Deficiency 14G--Quality Assurance - Procurement Deficiency								
<b>HQ Summary:</b>	<p>On March 10, 2010, a subcontractor general laborer drilled into an electrical conduit that contained five wires; three of them were energized 208-volt 3-phase wires. The laborer, trained in concrete drilling, was drilling into the rib of a waffle slab rib as part of anchor installation work in Building 66 Laboratory 219. The existence of the conduit was not known. After perforating the conduit with an insulated drill, the laborer saw and heard sparks through the conduit hole, stopped work, and notified the supervisor. A facilities electrician was able to locate the wire feeder box, which was not being used, and de-energized all the wires. The Laboratory's current practice for locating utilities for certain projects is to scan a sampling of the concrete ribs. Because a scan of the concrete ribs in Room 201 found no conduit, the permit for drilling in Room 219 did not require a scan. Penetration work at the job site will resume under a new penetration permit that will require pre-job scanning of the waffle slab ribs. The incident did not result in injury or property damage.</p>								
<b>Similar OR Report Number:</b>									
<b>Facility Manager:</b>	<table border="1"> <tr> <td>Name</td> <td>Jennifer Ridgeway</td> </tr> <tr> <td>Phone</td> <td>(510) 486-6339</td> </tr> <tr> <td>Title</td> <td>Division Director</td> </tr> </table>	Name	Jennifer Ridgeway	Phone	(510) 486-6339	Title	Division Director		
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<b>Originator:</b>	<table border="1"> <tr> <td>Name</td> <td>MOU, FLORENCE P.</td> </tr> <tr> <td>Phone</td> <td>(510) 486-7872</td> </tr> <tr> <td>Title</td> <td>SENIOR ADMINISTRATOR</td> </tr> </table>	Name	MOU, FLORENCE P.	Phone	(510) 486-7872	Title	SENIOR ADMINISTRATOR		
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NA	NA	NA	NA						
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<b>Authorized Classifier(AC):</b>									

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